02

Student: _____

1. Simplify and collect like terms: $(-p) + (-3p) + (4p)$

2. Simplify and collect like terms: $(5s - 2t) - (2s - 4t)$

3. Simplify and collect like terms: $4x^2y + (-3x^2y) - (-5x^2y)$

4. Simplify and collect like terms: $1 - (7e^2 - 5 + 3e - e^3)$

5. Simplify and collect like terms: $\left(6x^2 - 3xy + 4y^2\right) - \left(8y^2 - 10xy - x^2\right)$

6. Simplify and collect like terms: $\left(7m^3 - m - 6m^2 + 10\right) - \left(5m^3 - 9 + 3m - 2m^2\right)$

7. Simplify and collect like terms: $2(7x - 3y) - 3(2x - 3y)$

8. Simplify and collect like terms: $4(a^2 - 3a - 4) - 2(5a^2 - a - 6)$

9. Simplify and collect like terms: $15x - [4 - 2(5x - 6)]$

10. Simplify and collect like terms: $6a - [3a - 2(2b - a)]$

11. Simplify and collect like terms: $\frac{2x + 9}{4} - 1.2(x - 1)$

12. Simplify and collect like terms: $\frac{x}{2}-x^2+\frac{4}{5}-0.2x^2-\frac{4}{5}x+\frac{1}{2}$

13. Simplify and collect like terms: $\frac{8x}{0.5}+\frac{5.5x}{11}+0.5(4.6x-17)$

14. Simplify and collect like terms: $\frac{2x}{1.045}-\frac{2.016x}{3}+\frac{x}{2}$

15. Simplify and collect like terms: $\frac{P}{1+0.095\times\frac{5}{12}}+2P\left(1+0.095\times\frac{171}{365}\right)$

16. Simplify and collect like terms: $y\left(1-0.125\times\frac{213}{365}\right)+\frac{2y}{\left(1+0.125\times\frac{88}{365}\right)}$

17. Simplify and collect like terms: $k(1+0.04)^2+\frac{2k}{(1+0.04)^2}$

18. Simplify and collect like terms: $\frac{h}{(1+0.055)^2}-3h(1+0.055)^3$

19. Perform the operation indicated and collect like terms: $4a(3ab - 5a + 6b)$

20. Perform the operation indicated and collect like terms: $9k(4 - 8k + 7k^2)$

21. Perform the operation indicated and collect like terms: $-5xy(2x^2 - xy - 3y^2)$

22. Perform the operation indicated and collect like terms: $-(p^2 - 4pq - 5p)\left(\frac{2q}{p}\right)$

23. Perform the operation indicated and collect like terms: $(4r - 3t)(2t + 5r)$

24. Perform the operation indicated and collect like terms: $(3p^2 - 5p)(- 4p + 2)$

25. Perform the operation indicated and collect like terms: $3(a - 2)(4a + 1) -5(2a + 3)(a - 7)$

26. Perform the operation indicated and collect like terms: $5(2x - y)(y + 3x) - 6x(x - 5y)$

27. Perform the operation indicated and collect like terms: $\frac{18x^2}{3x}$

28. Perform the operation indicated and collect like terms: $\frac{6a^2b}{-2ab^2}$

29. Perform the operation indicated and collect like terms: $\frac{x^2y - xy^2}{xy}$

30. Perform the operation indicated and collect like terms: $\frac{-4x + 10x^2 - 6x^3}{-0.5x}$

31. Perform the operation indicated and collect like terms: $\frac{12x^3 - 24x^2 + 36x}{48x}$

32. Perform the operation indicated and collect like terms: $\frac{32a^2b - 8ab + 14ab^2}{2ab}$

33. Perform the operation indicated and collect like terms: $\frac{4a^2b^3 - 6a^3b^2}{2ab^2}$

34. Perform the operation indicated and collect like terms: $\frac{120(1+i)^2 + 180(1+i)^3}{360(1+i)}$

35. Evaluate: $3d^2 - 4d + 15$ for $d = 2.5$

36. Evaluate: $15g - 9h + 3$ for $g = 14$, $h = 15$

37. Evaluate: $7x(4y - 8)$ for $x = 3.2$, $y = 1.5$

38. Evaluate: $I \div Pr$ for $P = \$500$, $I = \$13.75$, $r = 0.11$

39. Evaluate and calculate to the cent: $\frac{I}{rt}$ for $r = 0.095$, $I = \$23.21$, $t = \frac{283}{365}$

40. Evaluate and calculate to the cent: $\frac{N}{1-d}$ for N = \$89.10, d = 0.10

41. Evaluate and calculate to the cent: $L(1-d_1)(1-d_2)(1-d_3)$ for L = \$490, $d_1 = 0.125,\ d_2 = 0.15,\ d_3 = 0.05$

42. Evaluate and calculate to the cent: $P(1+rt)$ for P = \$770, r = 0.13, $t = \frac{223}{365}$

43. Evaluate and calculate to the cent: $\frac{S}{1+rt}$ for S = \$2,500, r = 0.085, $t = \frac{123}{365}$

44. Evaluate: $(1+i)^m - 1$ for i = 0.0225, m = 4

45. Evaluate and calculate to the cent: $P(1+i)^n$ for P = \$1,280, i = 0.025, n = 3

46. Evaluate and calculate to the cent: $\frac{S}{(1+i)^n}$ for $S = \$850$, $i = 0.0075$. $n = 6$

47. Evaluate and calculate to the cent: $R\left[\frac{(1+i)^n - 1}{i}\right]$ for $R = \$550$, $i = 0.085$, $n = 3$

48. Evaluate and calculate to the cent: $R\left[\frac{(1+i)^n - 1}{i}\right](1+i)$ for $R = \$910$, $i = 0.1038129$, $n = 4$

49. Evaluate and calculate to the cent: $\frac{R}{i}\left[1 - \frac{1}{(1+i)^n}\right]$ for $R = \$630$, $i = 0.115$, $n = 2$

50. Evaluate and calculate to the cent: $P(1+rt_1) + \frac{S}{1+rt_2}$ for $P = \$470$, $S = \$390$, $r = 0.075$, $t_1 = \frac{104}{365}$, $t_2 = \frac{73}{365}$

51. Simplify: $a^2 \times a^3$

52. Simplify: $\left(x^6\right)\left(x^{-4}\right)$

53. Simplify: $b^{10} \div b^6$

54. Simplify: $h^7 \div h^{-4}$

55. Simplify: $(1+i)^4 \times (1+i)^9$

56. Simplify: $(1+i) \times (1+i)^n$

57. Simplify: $\left(x^{4}\right)^{7}$

58. Simplify: $\left(y^{3}\right)^{3}$

59. Simplify: $\left(t^{6}\right)^{1/3}$

60. Simplify: $\left(n^{0.5}\right)^{8}$

61. Simplify: $\frac{\left(x^{5}\right)\left(x^{6}\right)}{x^{9}}$

62. Simplify: $\frac{(x^{5})^{6}}{x^{9}}$

63. Simplify: $[2(1+i)]^2$

64. Simplify: $\left(\frac{1+i}{3i}\right)^3$

65. Simplify: $\frac{4r^5t^6}{\left(2r^2t\right)^3}$

66. Simplify: $\frac{\left(-r^3\right)(2r)^4}{\left(2r^{-2}\right)^2}$

67. Simplify: $\left(\frac{3a^3b^2}{a-b}\right)^4$

68. Simplify: $\left(\frac{3}{2x^2}\right)^2\left(\frac{6x^3}{5^2}\right)\left(-\frac{x}{5}\right)^{-1}$

69. Simplify: $\frac{(-2y)^3\left(x^4\right)^{-2}}{\left(x^{-2}\right)^2(4y)^2}$

70. Simplify: $\frac{\left[\left(x^{1/3}\right)\left(x^{2/3}\right)x\right]^{3/2}}{\left(8x^3\right)^{2/3}}$

71. Evaluate to six-figure accuracy: $8^{4/3}$

72. Evaluate to six-figure accuracy: $\left(-27^{2/3}\right)$

73. Evaluate to six-figure accuracy: $7^{3/2}$

74. Evaluate to six-figure accuracy: $5^{-3/4}$

75. Evaluate to six-figure accuracy: $(0.001)^{-2}$

76. Evaluate to six-figure accuracy: $0.893^{-1/2}$

77. Evaluate to six-figure accuracy: $(1.0085)^{5}(1.0085)^{3}$

78. Evaluate to six-figure accuracy: $(1.005)^{3}(1.005)^{-6}$

79. Evaluate to six-figure accuracy: $\sqrt[3]{1.03}$

80. Evaluate to six-figure accuracy: $\sqrt[6]{1.05}$

81. Evaluate to six-figure accuracy: $\left(4^4\right)\left(3^{-3}\right)\left(-\frac{3}{4}\right)^3$

82. Evaluate to six-figure accuracy: $\left[\left(-\frac{3}{4}\right)^2\right]^{-2}$

83. Evaluate to six-figure accuracy: $\left(\frac{2}{3}\right)^3\left(-\frac{3}{2}\right)^2\left(-\frac{3}{2}\right)^{-3}$

84. Evaluate to six-figure accuracy: $\left(-\frac{2}{3}\right)^3 \div \left(\frac{3}{2}\right)^{-2}$

85. Evaluate to six-figure accuracy: $\frac{1.03^{16}-1}{0.03}$

86. Evaluate to six-figure accuracy: $\frac{\left(1.008\overline{3}\right)^{30}-1}{0.008\overline{3}}$

87. Evaluate to six-figure accuracy: $\frac{1-1.0225^{-20}}{0.0225}$

88. Evaluate to six-figure accuracy: $\frac{1-\left(1.00\overline{6}\right)^{-32}}{0.00\overline{6}}$

89. Evaluate to six-figure accuracy: $(1+0.0275)^{1/3}$

90. Evaluate to six-figure accuracy: $(1+0.055)^{1/6}-1$

91. Solve: $10a + 10 = 12 + 9a$

92. Solve: $29 - 4y = 2y - 7$

93. Solve: $0.5(x - 3) = 20$

94. Solve: $\frac{1}{3}(x - 2) = 4$

95. Solve: $y = 192 + 0.04y$

96. Solve: $x - 0.025x = 341.25$

97. Solve: $12x - 4(2x - 1) = 6(x + 1) - 3$

98. Solve: $3y - 4 = 3(y + 6) - 2(y + 3)$

99. Solve: $8 - 0.5(x + 3) = 0.25(x - 1)$

100. Solve: $5(2 - c) = 10(2c - 4) - 6(3c + 1)$

101. Solve: $3.1t + 145 = 10 + 7.6t$

102. Solve: $1.25y - 20.5 = 0.5y - 11.5$

103. Solve accurate to the cent: $\frac{x}{1.1^2} + 2x(1.1)^3 = \$1000$

104. Solve accurate to the cent: $\frac{3x}{1.025^6} + x(1.025)^8 = \$2641.35$

105. Solve accurate to the cent: $\frac{2x}{1.03^7} + x + x\left(1.03^{10}\right) = \$1000 + \frac{\$2000}{1.03^4}$

106. Solve accurate to the cent: $x(1.05)^3 + \$1000 + \frac{x}{1.05^7} = \frac{\$5000}{1.05^2}$

107. Solve accurate to the cent: $x\left(1 + 0.095 \times \frac{84}{365}\right) + \frac{2x}{\left(1 + 0.095 \times \frac{108}{365}\right)} = \$1160.20$

108. Solve accurate to the cent: $\frac{x}{1+0.115\times\frac{78}{365}}+3x\left(1+0.115\times\frac{121}{365}\right)=\$1000\left(1+0.115\times\frac{43}{365}\right)$

109. Solve the following pair of equations. Verify your solution. $x - y = 2$
$3x + 4y = 20$

110. Solve the following pair of equations. Verify your solution. $y - 3x = 11$
$5x + 30 = 4y$

111. Solve the following pair of equations. Verify your solution. $4a - 3b = -3$
$5a - b = 10$

112. Solve the following pair of equations. Verify your solution. $7p - 3q = 23$
$-2p - 3q = 5$

113. $7x - y = 35$
Solve the following pair of equations. Verify your solution. $y = 2x$

114. Solve the following pair of equations. Verify your solution. $g - h = 17$
$\frac{4}{3}g + \frac{3}{2}h = 0$

115. Solve the following pair of equations. Verify your solution. $d = 3c - 500$
$0.7c + 0.2d = 550$

116. Solve the following pair of equations. Verify your solution. $0.03x + 0.05y = 51$
$0.8x - 0.7y = 140$

117. Solve the following pair of equations. Verify your solution. $2v + 6w = 1$
$-9w + 10v = 18$

118. Solve the following pair of equations. Verify your solution. $2.5a + 2b = 11$
$8a + 3.5b = 13$

119. Solve the following pair of equations. Verify your solution. $37x - 63y = 235$
$18x + 26y = 468$

120. Solve the following pair of equations. Verify your solution. $68.9n - 38.5m = 57$
$45.1n - 79.4m = -658$

121. Solve the following pair of equations. Verify your solution. $0.33e + 1.67f = 292$
$1.2e + 0.61f = 377$

122. Solve the following pair of equations. Verify your solution. $318j - 451k = 7.22$
$-249j + 193k = -18.79$

123. A web site had 2/7 more hits last month than in the same month of the preceding year. If there were 2655 hits last month, how many were there 1 year earlier?

124. The retail price of a pair of skis consists of the wholesale cost to the retailer plus the retailer's markup. If skis retailing for $712 are marked up by 60% of the wholesale cost, what is that wholesale cost?

125. The price tags in Annie's Flower Shop include the 5% Goods and Services Tax (GST). How much GST will she report for a plant sold at $39.95?

126. A stockbroker's commission on a transaction is 2.5% of the first $5,000 of the transaction amount and 1.5% of the remainder. What was the amount of a transaction that generated a total commission of $227?

127. A caterer has the following price structure for banquets. The first 20 meals are charged the basic price per meal. The next 20 meals are discounted by $2 each and all additional meals are each reduced by $3. If the total cost for 73 meals comes to $1620, what is the basic price per meal?

128. Econocar offers two plans for one-week rentals of a compact car. A rate of $295 per week includes the first 1,000 kilometres. Extra distance costs 15 cents per kilometre. A weekly rate of $389 allows unlimited driving. Rounded to the nearest kilometre, beyond what driving distance is the unlimited driving plan cheaper?

129. Alicia pays 38% income tax on any additional earnings. She has an opportunity to work overtime at 1.5 times her base wage of $23.50 per hour. Rounded to the nearest quarter hour, how much overtime must she work to earn enough money (after tax) to buy a canoe that costs $2750 including sales taxes?

130. Classic Homes has found from experience that there should be 40% as many two-bedroom homes as three-bedroom homes in a subdivision, and twice as many two-bedroom homes as four-bedroom homes. How many homes of each type should Classic build in a new 96-home subdivision?

131. Broadway Mazda usually spends half as much on radio advertising as on newspaper advertising, and 60% as much on television advertising as on radio advertising. If next year's total advertising budget is $160,000, how much (rounded to the nearest dollar) should be allocated to each form of advertising?

132. A city's commercial construction by-laws require five parking spaces for every 100 square metres of retail rental space in a shopping centre. Four percent of the parking spaces must be large spaces for the physically handicapped. Of the remainder, there must be 40% more regular-size spaces than "small-car" spaces. How many parking spaces of each type are required for a 27,500 square metre shopping centre?

133. Erin has invested in both an equity mutual fund and a bond mutual fund. Her financial advisor told her that her overall portfolio rose in value by 1.1% last year. Erin noted in the newspaper that the equity fund lost 3.3% last year while the bond fund rose 7.7%. To the nearest 0.1%, what percentage of her portfolio was in the equity fund at the beginning of the year?

134. Steel is an alloy of iron and nickel. A steel recycling company has two piles of scrap steel. Pile A contains steel with 5.25% nickel content. Pile B contains steel with 2.84% nickel. The company has an order for 32.5 tonnes of steel containing 4.15% nickel. How much scrap steel should be taken from each pile for reprocessing?

135. The board of directors of Meditronics Inc. has designated 100,000 stock options for distribution to employees and management of the company. Each of three executives is to receive 2,000 more options than each of eight scientists and engineers. Each scientist and engineer is to receive 50% more options than each of 14 technicians. How many options will a person in each position receive?

136. Dash Canada offers two long-distance telephone plans. Plan X costs 13 cents per minute for calls between 8 a.m. and 6 p.m. weekdays (business hours) and 9 cents per minute at other times. Plan Y costs 10.6 cents per minute any time. Above what percentage of business-hour usage will Plan Y be cheaper?

137. Quality Grocer makes its own bulk "trail mix" by mixing raisins and peanuts. The wholesale cost of raisins is $3.75 per kg and the cost of peanuts is $2.89 per kg. To the nearest 0.1 kg, what amounts of peanuts and raisins should be mixed to produce 50 kg of trail mix with an effective wholesale cost of $3.20 per kg?

138. A firm received a bill from its accountant for $3,310, representing a combined total of 41 "billable" hours for both the Certified General Accountant (CGA) and her accounting technician, for conducting the firm's audit. If the CGA charges her time at $120 per hour and the technician's time at $50 per hour, how many hours did each work on the audit?

139. Joan, Stella, and Sue have agreed to form a partnership. For the original capital investment of $32,760, Sue agrees to contribute 20% more than Joan, and Joan agrees to contribute 20% more than Stella. How much will each contribute?

140. The annual net income of the SGR partnership is to be distributed so that Sven receives 30% less than George, and Robert receives 25% more than George. If the past year's net income was $88,880, what amount should be allocated to each?

141. It takes 20 minutes of machine time to manufacture Product X and 30 minutes of machine time to manufacture Product Y. If the machine operated 47 hours last week to produce a combined total of 120 units of the two products, how many units of Y were manufactured?

142. The tickets for a hockey game cost $19.00 for the blue LO and $25.50 for the red LO. If 4,460 tickets were sold for a total of $93,450, how many seats were sold in each LO?

143. Shirley had a three-sevenths interest in a partnership. She sold three-fifths of her interest for $27,000.

a) What is the implied value of Shirley's remaining partnership interest?
b) What is the implied value of the entire partnership?

144. Regal Resources owns a 58% interest in a mineral claim. Yukon Explorations owns the remainder. If Regal sells one-fifth of its interest for $1.2 million, what is the implied value of Yukon's interest?

145. The statistics for a professional accounting program indicate that five-sevenths of those who enter the program complete Level 1. Two-ninths of Level 1 completers do not finish Level 2. If 587 students completed Level 2 last year, how many (including this group of 587) began Level 1?

146. Executive Fashions sold four-sevenths of its inventory at cost in a bankruptcy sale. The remainder was sold to liquidators for $6,700 representing 45% of the cost of the goods.

a) What was the original cost of the inventory that was sold to the liquidators?
b) What were the proceeds from the bankruptcy sale?

147. The annual dues for the Southern Pines Golf Club are $2140 for regular members and$856 for student members. If the total revenue from the dues of 583 members for the past year was $942,028, how many members did the club have in each category?

148. The Hungry Heifer diner offers an all-you-can-eat buffet at $12.95 per adult and $8.95 per child. On a particular day, the diner had total buffet revenue of $3,304.70 from 266 customers. How many of the customers were children?

149. Tina drove from Calgary to Vancouver, a distance of 1,000 km, in 12.3 hours. She drove at 100 km/h on the "open road," but slowed to 50 km/h on urban and curving roads. What distance did she drive at each speed? (Hint: Travelling time at a particular speed 5 Distance/Speed)

150. Mr. and Mrs. Chudnowski paid $1,050 to fly with their three children from Winnipeg to Regina. Mrs. Ramsey paid $610 for herself and two children on the same flight. What were the airfares per adult and per child?

151. Budget Truck Rentals offers short-term truck rentals consisting of an hourly rate plus a per-kilometre charge. Vratislav paid $39.81 for a two-hour rental during which he drove 47 km. Bryn paid $93.89 for five hours and 93 km driven. What rate did Budget charge per hour and per km?

152. Buckerfields Garden Supply makes custom fertilizer by mixing appropriate combinations of bulk 6% nitrogen fertilizer with bulk 22% nitrogen fertilizer. How many kilograms of each type should be mixed to make 300 kg of 16% nitrogen fertilizer? (Hint: The weight of nitrogen in the mixture equals the total weight of nitrogen in the two components mixed together.)

153. Colby inherited a small savings-bond portfolio consisting of four $1,000 face-value Canada Savings Bonds and six $1,000 face-value Ontario Savings Bonds. In the first year, the portfolio earned $438 interest. At the end of the first year, Colby cashed in one of the Canada Savings Bonds and two of the Ontario Savings Bonds. In the following year, the remaining bonds earned $306 interest. What annual rate of interest did each type of bond earn?

154. Mr. LeClair and Ms. Bartoli own adjacent hobby farms. They have just received their property tax bills for the current year. Mr. LeClair's property tax is $1,935 on a residence assessed at $200,000 and land with farm buildings assessed at $150,000. Ms. Bartoli's tax is $1,887 on her residence assessed at $175,000 and land with farm buildings assessed at $190,000. The regional government applies one tax rate to residences, and a lower tax rate to land with farm buildings. What are these property tax rates (expressed in percent to the nearest 0.01%)?

155. Product X requires 30 minutes of machining on a lathe, and product Y requires 45 minutes of machining. If the lathe was operated for 60.5 hours last week for machining a combined total of 93 units of Products X and Y, how many units of each product were produced?

156. Marichka bought 5 litres of milk and 4 dozen eggs for $13.97. Lonnie purchased 9 litres of milk and 3 dozen eggs for $16.83. What were the prices for a litre of milk and a dozen eggs?

157. TinyTot School purchases the same amount of milk and orange juice each week. After price increases from $1.10 to $1.15 per litre of milk and from $0.98 to $1.14 per can of frozen orange juice, the weekly bill rose from $42.20 to $45.85. How many litres of milk and cans of orange juice are purchased every week?

158. In the first week of July a beer and wine store sold 871 cases of beer and paid refunds on 637 cases of empty bottles, for a net revenue of $12,632.10. For the following week the net revenue was $13,331.70 from the sale of 932 cases and the return of 805 cases of empties. What refund did the store pay per case of empty bottles?

159. As a fundraiser, a local charity sold raffle tickets on a trip to Disney World at $2 each or three for $5. In all, 3,884 tickets were sold for a total of $6,925. How many people bought tickets at the three for $5 discount?

160. A convenience store sells canned soft drinks at $4.35 for a six-pack or 90 cents for a single can. If revenue from the sale of 225 cans of soft drinks on a weekend was $178.35, how many six-packs and how many single cans were sold?

161. A partnership in a public accounting practice has 7 partners and 12 accounting technicians. Each partner draws the same salary, and each technician is paid the same salary. The partners calculate that if they give the technicians a raise of 5% and if they increase their own salaries by 5%, the gross annual salaries for all accounting personnel will rise from the current $1,629,000 to $1,734,750. What are the current annual salaries of a partner and an accounting technician?

162. A manufacturing firm pays monthly salaries of $3,400 to each production worker and $2,800 to each assembly worker. As the economy drops into a recession, the firm decides to reduce its total monthly manufacturing payroll from $253,800 to $198,000 by laying off 20% of its production workers and 25% of its assembly workers. How many layoffs will there be from each of the assembly and production divisions?

163. Mr. Parker structured his will so that each of his four children will receive half as much from the proceeds of his estate as his wife, and each of 13 grandchildren will receive one-third as much as each child. After his death, $759,000 remains after expenses and taxes for distribution among his heirs. How much will each child and grandchild receive?

164. To coordinate production in a three-stage manufacturing process, Stage B must be assigned 60% more workers than Stage A. Stage C requires three-quarters as many workers as Stage B. How should the foreman allocate 114 workers among the three stages?

165. Fred has centralized the purchasing and recordkeeping functions for his three pharmacies in a single office. The annual costs of the office are allocated to the three stores. The Hillside store is charged $1,000 less than twice the charge to the Barnett store. The Westside store is charged $2,000 more than the Hillside store. What is the charge to the Westside store if the cost of operating the central office for a year is $27,600?

166. $100,000 is to be distributed under a firm's profit-sharing plan. Each of 3 managers is to receive 20% more than each of 26 production workers. How much will each manager and production worker receive?

167. José works in a toy manufacturing plant. The wooden toy he fabricates requires three steps: cutting, assembly, and painting. Assembly takes two minutes longer than half the cutting time, and painting requires half a minute longer than half the assembly time. How long does each step require if José made 72 units in 42 hours of work?

168. Calculate the missing value: Initial Value = $95; Final Value = $100; Percent Change =?

169.Calculate the missing value: Initial Value = $100; Final Value = $95; Percent Change =?

170.Calculate the missing value: Initial Value = 35kg; Final Value = 135kg; Percent Change =?

171.Calculate the missing value: Initial Value = 135kg; Final Value = 35kg; Percent Change =?

172.Calculate the missing value: Initial Value = 0.11; Final Value = 0.13; Percent Change =?

173.Calculate the missing value: Initial Value = 0.095; Final Value = 0.085; Percent Change =?

174.Calculate the missing value: Initial Value = $134.39; Final Value =?; Percent Change = -12%

175.Calculate the missing value: Initial Value = 112g; Final Value =?; Percent Change = 112%

176.Calculate the missing value: Initial Value = 26.3cm; Final Value =?; Percent Change = 300%

177.Calculate the missing value: Initial Value = 0.043; Final Value =?; Percent Change = -30%

178.Calculate the missing value: Initial Value =?; Final Value = $75; Percent Change = 200%

179.Calculate the missing value: Initial Value =?; Final Value = $75; Percent Change = -50%

180.$100 is what percent more than $90?

181.$100 is what percent less than $110?

182.What amount when increased by 25% equals $100?

183.What sum of money when increased by 7% equals $52.43?

184.$75 is 75% more than what amount?

185.How much is $56 increased by 65%?

186.$754.30 is what percent less than $759.00?

187.77,787 is what percent more than 77,400?

188.How much is $75 increased by 75%?

189.$100 is 10% less than what number?

190.What amount after a reduction of 20% equals $100?

191.What amount after a reduction of 25% equals $50?

192.What amount after a reduction of $16.\overline{6}\,\%$ equals $549?

193.How much is $900 after a decrease of 90%?

194.How much is $102 after a decrease of 2%?

195.How much is $102 after a decrease of 100%?

196.$750 is what percent more than $250?

197.$250 is what percent less than $750?

198.How much is $10,000 increased by ¾%?

199. How much is $1045 decreased by 0.5%?

200. What amount when increased by 150% equals $575?

201. What amount after being increased by 210% equals $465?

202. How much is $150 after an increase of 150%?

203. How much is $10 after an increase of 900%?

204. The total cost of a coat, including GST and provincial sales tax totalling 14% of the ticket price, was $283.86. What was the ticket price of the coat?

205. On the purchase of a plasma TV, the total cost to the customer (including 6% GST and 7% PST) came to $2,822.74. How much GST and how much PST did the customer pay?

206. In 2006, Canada's population reached 32,500,000, a level that was 9.53% higher than then years earlier. Rounded to the nearest 10,000, what was the population figure for 1996?

Becker Tools sold 32,400 hammers at an average price of $15.10 in Year 1 and 27,450 hammers at an average price of $15.50 in Year 2. What was the percent change from Year 1 to Year 2 in:

207. The number of hammers sold?

208. The average selling price?

209. The revenue from the sale of hammers?

An investor purchased shares of Digger Resources at a price of $0.55 per share. One year later, the shares traded at $1.55, but they fell back to $0.75 by the end of the second year after the date of purchase. Calculate the percent change in the share price:

210. In the first year

211. In the second year

212. Over both years

213. What was the percent change in unit price when the regular size of Lily soap bars dropped from 100 g to 90 g (with no change in the price per bar)?

214. After Island Farms increased the container size for its premium ice cream from 1.65 L to 2.2 L, the retail price increased from $5.49 to $7.98. What was the percent change in the unit price?

215. Fluffy laundry detergent reduced its regular size from 3.6 kg to 3 kg. The retail price dropped from $7.98 to $6.98. What was the percent change in the unit price?

216. The retail price of Paradise Island cheddar cheese dropped from $7.98 to $7.29 when the package size was reduced from 700 g to 600 g. What was the percent change in the unit price?

217. Elegance shampoo has a suggested retail price of $4.49 for its 500 ml bottle. The manufacturer of the shampoo wants to increase the unit retail price by 10% at the same time that it reduces the container size to 425 ml. What should be the suggested retail price of the smaller bottle?

218. The manufacturer of Caramalt chocolate bars wants to implement a 7.5% increase in the unit retail price along with a reduction in the bar size from 100 g to 80 g. If the current retail price of a 100-g bar is $1.15, what should be the price of an 80-g bar?

219. The Edmonton Real Estate Board reports that the average selling price of homes last month in the greater Edmonton area was $338,500, an increase of 8.7% over the past year. Rounded to the nearest $100, what was the average selling price one year ago?

220. Mountain Sports is advertising "30% Off All Skiing Equipment" in its Spring Clearance Sale. On ski boots marked down to $348.60, what is the regular price?

221. Goldfield Resources' share price fell by $4 in Year 1 and then rose by $4 in Year 2. If the share price was $6 at the end of Year 1, what was the percent change in share price each year?

222. A wholesaler sells to retailers at a 27% discount from the suggested retail price. What is the suggested retail price of an item that costs the retailer $100?

223. For the third quarter of 2006, Google Inc. reported a net income of $381.2 million, up 96% from a year earlier. What was the dollar amount of the increase in net income over the third quarter of 2005?

224. Mutual Fund A charges an annual management fee of 2.38% of money under management. The corresponding management fee for Mutual Fund B is 1.65%. On the same invested amount, what percentage more fees will you pay to Fund A than to Fund B?

225. In July of 2006, the federal government reduced the GST rate from 7% to 6%. What was the resulting percent reduction in the dollar amount of GST consumers paid on any item?

226. During the past 15 years the price of milk has increased by 160%. If the price is now $1.30 per litre, what is the dollar amount of the price increase per litre?

227. The price of the shares of Nadir Explorations Ltd. fell by 76% in the past year, to the current price of $0.45 per share. In dollars and cents, how much did the price of each share drop in the past year?

228. A piece of machinery has depreciated by 55% of its original purchase price during the past 4 years, to the current value of $24,300. What is the dollar amount of the total depreciation during the last 4 years?

229. The owner listed a property for 140% more than she paid for it 12 years ago. After receiving no offers during the first 3 months of market exposure, she dropped the list price by 10%, to $172,800. What was the original price that the owner paid for the property?

230. A car dealer normally lists new cars at 22% above cost. A demonstrator model was sold for $17,568 after a 10% reduction from the list price. What amount did the dealer pay for this car?

231. General Paint and Cloverdale Paint normally offer the same prices. For its Spring Specials Sale, General Paint has marked down the price of outdoor latex paint by 30%. What percentage more will you pay if you buy paint at the regular price at Cloverdale?

232. If the Canadian dollar is worth 6.5% less than the U.S. dollar, by what percentage does the U.S. dollar exceed the value of the Canadian dollar?

233. Last year, Canada's exports to the U.S. exceeded imports from the U.S. by 23%. By what percentage were the United States' exports to Canada less than its imports from Canada?

234. Sears reported that its sales in January were down 17.4% from its sales in December. What percentage were December sales of January sales?

235. If the denominator of a fraction decreases by 20% and the numerator remains unchanged, by what percentage does the value of the fraction change?

236. The Hampton District school board decided to reduce the number of students per teacher next year by 15%. If the number of students does not change, by what percentage must the number of teachers be increased?

237. If operating expenses are 40% of revenue, by what percentage does revenue exceed operating expenses?

238. A company has 50% less equity financing than debt financing. What percentage is the debt of the equity? What percentage more debt financing does the company have than equity financing?

239. The Lightning laser printer prints 30% more pages per minute than the Reliable laser printer. What percentage less time than the Reliable will the Lightning require for long print jobs?

240. If the euro is worth 39% more than the Canadian dollar, how much less (in percentage terms) is the Canadian dollar worth than the euro?

241. A hospital can increase the dollar amount budgeted for nurses' overtime wages during the next year by only 3%. The nurses union has just won an 11% hourly rate increase for the next year. By what percentage must the hospital cut the number of overtime hours in order to stay within budget?

242. Simplify: $\frac{9y-7}{3} - 2.3(y-2)$

243. Simplify: $P\left(1+0.095\times\frac{135}{365}\right)+\frac{2P}{\left(1+0.095\times\frac{75}{365}\right)}$

244. Multiply and collect like terms: $4(3a + 2b)(2b - a) - 5a(2a - b)$

245. Evaluate accurate to the cent: $L(1-d_1)(1-d_2)(1-d_3)$ for L = \$340, $d_1 = 0.15,\ d_2 = 0.08,\ d_3 = 0.05$

246.

Evaluate accurate to the cent: $\frac{R}{i}\left[1-\frac{1}{(1+i)^n}\right]$ for R = \$575, i = 0.085, n = 3

247.

Simplify: $\left(-\frac{2x^2}{3}\right)^{-2}\left(\frac{5^2}{6x^3}\right)\left(-\frac{15}{x^5}\right)^{-1}$

248.

Evaluate to six-figure accuracy: $\frac{\left(1.00\overline{6}\right)^{240}-1}{0.00\overline{6}}$

249. Evaluate to six-figure accuracy: $(1+0.025)^{1/3}-1$

250.

Solve for x to five-figure accuracy: $\frac{x}{1.08^3}+\frac{x}{2}(1.08)^4=\$850$

251.

Solve for x to five-figure accuracy: $2x\left(1+0.085\times\frac{77}{365}\right)+\frac{x}{\left(1+0.085\times\frac{132}{365}\right)}=\$1565.70$

252.What amount is 17.5% more than $29.43?

253.What amount reduced by 80% leaves $100?

254.What amount reduced by 15% equals $100?

255.What is $47.50 increased by 320%?

256.What amount when decreased by 62% equals $213.56?

257. What amount when increased by 125% equals $787.50?

258. What amount is 30% less than $300?

259. Yellowknife Mining sold 34,300 oz. of gold in 1992 at an average price of $320 per ounce. Production was down to 23,750 oz. in 1993 because of a strike of the miners, but the average price obtained was $360 per ounce. What was the percent change from 1992 to 1993 in:

a) The amount of gold produced?
b) The average selling price per ounce?
c) The revenue from the sale of gold?

260. Two years ago the shares of Diamond Strike Resources traded at a price of $3.40 per share. One year later the shares were at $11.50, but then they declined in value by 35% during the subsequent year. Calculate:

a) The percent change in the share price during the first year.
b) The current share price.

261. Barry recently sold some stock after holding it for 2 years. The stock rose 150% in price during the first year but fell 40% in the second year. At what price did he buy the stock if he sold it for $24 per share?

262. The profits from a partnership are to be distributed so that Grace receives 20% more than Kajsa, and Mary Anne receives five-eighths as much as Grace. How much should each receive from a total distribution of $36,000?

263. Rory invested a total of $7,800 in shares of ABC Ltd. and XYZ Inc. One year later the investment was worth $9,310, after the shares of ABC had increased in value by 15% and the shares of XYZ were up 25%. How much did Rory invest in each company?

264. Bart purchased 60% of a three-eighths interest in a ski chalet for $25,000. What was the implied value of the chalet?

265. Solve each of the following pairs of equations to three-figure accuracy.

a) $4a - 5b = 30$
$2a - 6b = 22$

b) $76x - 29y = 1050$
$-213x - 63y = 250$

266. Deanna is paid a base salary plus commission. On sales of $27,000 and $35,500 in two successive months, her gross pay was $2,815.00 and $3,197.50, respectively. What are her base salary and commission rate (in percent)?

267. Nguyen fishes for red snapper and lingcod off the coast of British Columbia, and delivers his catch each week to a fish buyer. On one delivery, he received $2454.20 for 370 kg of red snapper and 264 kg of lingcod. On another occasion he was paid $2124.70 for 304 kg of lingcod and 255 kg of red snapper. What price per kg was Nguyen paid for each type of fish?

268. Perform operations and gather like terms: $6(4y - 3)(2 - 3y) - 3(5 - y)(1 + 4y)$

269. Perform operations and gather like terms: $\frac{5b-4}{4}-\frac{25-b}{1.25}+\frac{7}{8}b$

270. Perform operations and gather like terms: $\frac{x}{1+0.085\times\frac{63}{365}}+2x\left(1+0.085\times\frac{151}{365}\right)$

271. Perform operations and gather like terms: $\frac{96nm^2-72n^2m^2}{48n^2m}$

272. Evaluate accurate to the cent: $P(1+i)^n + \frac{S}{1+rt}$ for P = \$2500, i = 0.1025, n = 2, S = \$1500, r = 0.09, and $t = \frac{93}{365}$.

273. Simplify: $\frac{\left(-3x^2\right)^3\left(2x^{-2}\right)}{6x^5}$

274. Simplify: $\frac{\left(-2a^3\right)^{-2}\left(4b^4\right)^{3/2}}{\left(-2b^3\right)(0.5a)^3}$

275. Evaluate to six-figure accuracy: $(1.0075)^{24}$

276. Evaluate to six-figure accuracy: $(1.05)^{1/6} - 1$

277. Evaluate to six-figure accuracy: $\frac{(1+0.0075)^{36}-1}{0.0075}$

278. Evaluate to six-figure accuracy: $\frac{1-(1+0.045)^{-12}}{0.045}$

279. Solve for x to five-figure accuracy: $\frac{2x}{1+0.13\times\frac{92}{365}}+x\left(1+0.13\times\frac{59}{365}\right)=\$831$

280. Solve for x to five-figure accuracy: $3x\left(1.03^{5}\right)+\frac{x}{1.03^{3}}+x=\frac{\$2500}{1.03^{2}}$

281. Albion Distributors' revenues and expenses for the fiscal year just completed were $2,347,000 and $2,189,000, respectively.

a) If in the current year revenues rise by 10% but expense increases are held to 5%, what will be the percent increase in operating profit?
b) If, instead, revenues decline by 10% and expenses are reduced by 5%, what will be the percent change in operating profit?

282. Use the formula Vf = Vi(1 + c1)(1 + c2)(1 + c3) to determine c2 if Vf = $586.64, Vi = $500, c1 = 0.17, and c3 = 0.09.

283. The annual net income of the Todd Bros. partnership is distributed so that Ken receives $15,000 more than 80% of Hugh's share. How should a net income of $98,430 be divided between the partners?

284. Solve the following equations.
$3x + 5y = 11$
$2x - y = 16$

285. During a one-day special, a grocery store sells cucumbers at 98 cents each or four for the price of three. At the end of the day, the store's computer reports that revenue from the sale of 541 cucumbers was $418.46. How many cucumbers were sold on the four-for-three promotion?

286. A hockey arena has 2500 seats in the preferred red LOs near centre ice and 4500 seats in the less desirable blue LOs. At regular season prices, a sell-out would generate ticket revenue of $50,250 for a single game. Ticket prices are raised by 20% in the "blues" and 30% in the "reds" for the playoffs. Ticket revenue from a playoff sell-out would be $62,400. What are the ticket prices for the playoffs?

287. Simplify: $2a-(-a)+4a-5a$

288. Simplify: $-4x-[-3x+2(x-6)]$

289. Evaluate: $R[\frac{(1+i)^n-1}{i}]$ for R = \$1,200, i = 0.02, n = 6

290. Simplify: $\frac{(2x^4y^2z^3)^2}{4xyz^2}$

291. Simplify: $x^7 \div x^{-4} \div x^3$

292. Simplify: $\frac{1-(1+0.015)^{-18}}{0.015}$

293. Solve for the unknown variable: $3(x-6)+5x-2(2x-3)=0$

294. Solve for the unknown variable: $9x+10=-3x+34$

295. Solve for the unknown variable: $1.5a+3(4a-6)=a(1.5)^2$

296. Solve for the unknown variable: $\frac{x}{(1.02)^6}+3x(1.02)^4-\$1000=\frac{\$4000}{(1.02)^3}$

297. $2x+7y=-8$
$5x-2y=19$

298. $0.07x+0.38y=0.294$
$-0.3x+0.7y=0.37$

299. $2y = 5x$
$3y - 5x = 0$

300. Larissa works in a retail store in Square One in Mississauga. She earns a base salary of $320 per week, and a commission of 3% on sales over her quota of $5,000. If Larissa earned $515 last week, what was the value of her sales?

301. Tickets for the end of semester dance sold for $10 if purchased in advance, and $15 if purchased at the door. If 392 tickets were sold for a total of $4280, how many tickets were sold at the door?

302. Sam earns $17.00 per hour for a forty-hour week. His overtime rate is 1 ½ times any hours exceeding forty in a week. If Sam earned $807.50 last week, how many overtime hours did he work?

303. Mrs. Simone invested $20,000 in two investments paying 2% and 3% respectively. She earned $460 interest for the year. How much did Mrs. Simone invest at 3%?

304. Kristina is in charge of billing for a company that does computer training. She is preparing an invoice for $1,340 for 32 hours of work, which includes training at $70 per hour and preparation of a manual at $25 per hour. How many hours of training are included in the invoice?

305. Marilyn bought a stock for $80 last week. Yesterday, the stock went up by 20%. Today it dropped by 20%. What is the current value of the stock?

306. Cliff just received a raise to $18.45 per hour from $18.00. What is the percent increase in his hourly rate?

307. If the CPI increases from 120.0 to 125.0 over a period, what is the percent increase in the CPI?

308. A coat is reduced by 30% to a sale price of $45.99. What was the selling price of the coat?

309. Sales have increased by 10% over last year. What percentage less was last year's sales than this year's sales?

310. Madison found a sweater at a suburban discount mall for 25% less than at a store in downtown Toronto. What percentage more would she have paid if she bought the sweater in downtown Toronto?

311. If December sales were 30% more than November sales, by what percent are November sales less than December sales?

312. If operating expenses are 25% of revenue, by what percentage does revenue exceed operating expenses?

313. Bill can do a task 35% faster than John. What percentage less time than John does Bill take to do a task?

314. Simplify the following expression $\frac{4x}{2} + \frac{4.02x}{5} - \frac{x}{3}$

315. Simplify the following expression $\frac{2.8x}{2} - \frac{6.15x}{1.5} - \frac{2x}{2.75}$

316.

Solve the equation, given R = 725, I = .076, n = 4 $\frac{R}{i}\left[1+\frac{1}{(1+\ i)^n}\right]$

317. Calculate the final value of $(1.15)^7(1.15)^{-5}$

318. Calculate the final value of $\sqrt[5]{2.37}$

319.

Simplify the following equation $\frac{15r^7t^9}{(3r^3t)^5}$

320. Solve for the following pair of equations to three figure accuracy $2.8a + 6.9b = 93.4$ $4.6a + 12.5b = 155.6$

321. Solve for the following pair of equations to three figure accuracy

$10.6x + 8.2y = 16.2$ $8.5x + 11.7y = 34.8$

322. Solve for the following pair of equations to three figure accuracy $2.9y + 6.8z = 185.8$ $6.4y + 10.1z = 149.3$

323. Solve for the following pair of equations to three figure accuracy $x - y = 12$ $4x + 6y = 42$

324. Granola king wishes to mix raisins and granola together to create a cereal. Raisins are priced at $7.25 per Kg while granola is prices at $5.60. If the cereal is to be priced at $6.85 per Kg, then what is the appropriate mix of raisins and granola?

325. $1.5 million in bonus will be distributed to employees. Regular employees will each get an equal amount. Middle managers will get 2.5 times the regular employees bonus, while the executives get 5 times the bonus of middle managers. There are forty middle managers, 350 employees and 15 executives. Determine the bonus for regular employees, middle managers and executives.

326. David's portfolio consists of bonds and equity. The bond market rose by 2.5%, while the equity market dropped by 10.5%. David's portfolio increased by 1.25%. What portion of bonds and equity did he have in his portfolio?

327. The Canucks charge $150 for Premium Tickets and $80 for Standard Tickets. If 18,500 tickets were sold for the Montreal game and $2,150,000 in revenues were recorded, how many Premium and Standard tickets were sold?

328. Future Shop's Toronto store sales increased by 3.45% from last year's sales of $2.5 million. Determine the current year's sales.

329. In 1985 a 100 gram chocolate cost $0.50. The same chocolate now has decreased to 80 grams and costs $1.75. Calculate the percentage change in grams.

330. The Euro is 8% greater than the US Dollar. By what percentage is the US Dollar less than the Euro?

331. Canadian Exports to China exceeded imports by 12%. By what percentage where Chinese Exports to Canada less than imports from Canada?

332. Simplify and collect like terms: -a + (2b - c) - (a -b +c)

A. -2a + 3b - 2c
B. -2a + b - 2c
C. 3b - 2c
D. -2a + 3b
E. -2a + 2b - 2c

333. Simplify and collect like terms: 1 - (3x - xy + y) - (-x + y - 5xy)
   A. 1 - 2x - 2y - 6xy
   B. 1 - 2x - 2y + 6xy
   C. 1 - 4x - 2y + 6xy
   D. 1 - 2x - 2y + 4xy
   E. 1 - 4x - 2y - 6xy

334. Simplify and collect like terms: 3(x - 2y)(2x + y)
   A. $6x^2 - 6xy - 6y^2$
   B. $6x^2 + 10xy - 6y^2$
   C. $6x^2 - 9xy - 6y^2$
   D. $6x^2 - 9xy + 6y^2$
   E. $6x^2 + 10xy + 6y^2$

335. Simplify and collect like terms: 9x - [4y - 3(x - y)]
   A. 12 x + 7y
   B. 6x - 7y
   C. 6x + 7y
   D. 12x - 7y
   E. 9x - 7y

336. Simplify and collect like terms: $\frac{4x + 5}{8} - 2.1(x - 7)$
   A. -1.6x - 14.075
   B. -1.6x - 15.325
   C. 2.6x + 15.325
   D. 2.6x - 14.075
   E. -1.6x + 15.325

337. Simplify and collect like terms: $\frac{x}{5} + \frac{2}{5} - 0.7x^2 - \frac{3}{5}x + \frac{3}{4}$
   A. $-0.7x^2 - .4x + 1.15$
   B. $0.7x^2 - .4x + 1.15$
   C. $-0.7x^2 - .4x + .35$
   D. $0.7x^2 - .4x + .35$
   E. $-0.7x^2 + .8x + 1.15$

338. Simplify and collect like terms: $\frac{P}{1 + 0.07 \times \frac{5}{12}} + 2P(1 + 0.07 \times \frac{4}{12})$
   A. 3.076P
   B. 3.018P
   C. 2.787P
   D. 3.532P
   E. 2.956P

339. Simplify and collect like terms: $x(1 + 0.045 \times \frac{55}{365}) + \frac{2x}{(1 - 0.045 \times \frac{200}{365})}$
   A. 2.957*x*
   B. 2.208*x*
   C. 3.057*x*
   D. 2.068*x*
   E. 1.983*x*

340. Simplify and collect like terms: $\frac{12xy - 6y^2}{3y}$

A. $4x + 2y$
B. $4xy - 2y$
C. $4xy - 2y^2$
D. $4x - 2y$
E. $4xy - 2y^2$

341. Simplify and collect like terms: $\frac{10xy^2 - 15x^3y^2 + 25xy^4}{5xy}$

A. $2y^2 - 3x^2y + 5y^3$
B. $2xy - 3x^2y + 5y^3$
C. $2y - 3x^2y + 5y$
D. $2y - 3x^2 + 5y$
E. $2y - 3x^2y + 5y^3$

342. Evaluate the following expression: 3x + 4y -6xy, for x = 2, y = -3

A. 30
B. -42
C. 54
D. -18
E. 24

343. Evaluate the following expression: $P(1 + rt)$, for P = \$1575, r = .055, $t = \frac{168}{365}$

A. \$39.87
B. \$1614.87
C. \$1973.71
D. \$16,128
E. \$724.96

344. Simplify the following: $a^2 \times a^6 \times a$

A. a^8
B. a^7
C. a^9
D. a^{12}
E. a^{13}

345. Simplify the following: $(a^2)(a^{-6})(a^3)$

A. a^{11}
B. a
C. a^{-36}
D. a^{-1}
E. a^{-5}

346. Simplify the following: $b^8 \div b^2$

A. b^4
B. b^{10}
C. b^{16}
D. b^{-6}
E. b^6

347. Simplify the following: $y^{8} \div y^{-5}$

A. y^{13}
B. y^{3}
C. y^{-40}
D. y^{40}
E. y^{-13}

348. Simplify the following: $(x^{5})^{4}$

A. x^{9}
B. x^{20}
C. x
D. x^{-1}
E. x^{0}

349. Simplify the following: $(2x^{3})^{5}$

A. $10x^{15}$
B. $32x^{8}$
C. $32x^{15}$
D. $2x^{15}$
E. $2x^{8}$

350. Simplify the following: $\frac{(x^{5})(x)(x^{-3})}{x^{-4}}$

A. x^{-1}
B. x^{6}
C. x^{-2}
D. x^{7}
E. x^{2}

351. Simplify the following: $\frac{(a^{3})^{-2}}{a^{6}}$

A. a^{0}
B. a
C. a^{-11}
D. a^{-5}
E. a^{-12}

352. Simplify the following: $\frac{(2a^{3}b^{2})^{4}}{a^{2}b^{3}}$

A. $16a^{10}b^{5}$
B. $2a^{10}b^{5}$
C. $16a^{3}b^{3}$
D. $2a^{5}b^{5}$
E. $16a^{5}b^{3}$

353. Simplify the following: $\left(\frac{4x}{2x^{3}}\right)^{-2}\left(\frac{3y^{2}}{2y^{3}}\right)^{2}\left(\frac{3xy}{5}\right)^{-1}$

A. $\frac{5x^{2}}{16y^{3}}$
B. $\frac{15x^{3}}{16y^{3}}$
C. $\frac{5x^{3}}{8y^{2}}$
D. $\frac{15x^{3}}{4y^{3}}$
E. $\frac{5x^{2}}{8y^{2}}$

354. Evaluate the following: $25^{3/2}$
A. 8.6
B. 37.5
C. 125
D. 5
E. 625

355. Evaluate the following: $-16^{\frac{5}{4}}$
A. 32
B. 64
C. -64
D. -32
E. 10

356. Evaluate the following: $\sqrt[4]{(121.89)^2}$
A. 14,857.17
B. 487.56
C. 3714.29
D. 60.945
E. 11.04

357. Evaluate the following: $\frac{1.04^{10}-1}{0.04}$
A. 12.006
B. 698.137
C. 1.201
D. 36.006
E. 35.58

358. Evaluate the following: $\frac{1.055^{6}-1}{0.055}$
A. 233.95
B. 6.888
C. 0.689
D. 23.395
E. 23.763

359. Evaluate the following: $\frac{1-1.075^{-8}}{0.075}$
A. -5.857
B. -10.446
C. 5.857
D. 0.5857
E. 13.485

360. Evaluate the following: $\frac{1-1.056^{-15}}{0.056}$
A. -9.971
B. -22.579
C. 58.29
D. 9.971
E. 25.743

361. Evaluate the following: $\left(\frac{4}{3}\right)^{2}\left(\frac{3}{4}\right)^{-3}\left(\frac{4}{3}\right)^{-5}$

A. $\frac{4}{3}$
B. $\frac{3}{4}$
C. $\frac{16}{3}$
D. $\frac{4}{9}$
E. 1

362. The retail price of a sweater is $161.00, which includes a markup of 40% of cost. What is the cost price of the sweater?

A. $115
B. $70.84
C. $64.40
D. $96.60
E. $100.63

363. The retail price of a packaged CD is $60.00, which includes a markup of 150% of cost. What is the cost price of the CD?

A. $40
B. $24
C. $36
D. $20
E. $32

364. The commission on a transaction is 3% of the first $100,000 and 2% of the balance. What was the amount of a transaction where the commission charged was $10,100?

A. $225,000
B. $545,000
C. $310,000
D. $355,000
E. $455,000

365. Sam has $20,000 to invest. He invested part at 5% and part at 6%. His investments earned $1,120 total interest for the year. How much did Sam invest at each rate?

A. $12,000; $8000
B. $10,000; $10,000
C. $6000; $14,000
D. $14,000; $6000
E. $8000; $12,000

366. Anders has $35,000 to invest. He invested part at 5.5% and part at 7%. His investments earned $2,195 total interest for the year. How much did Anders invest at each rate?

A. $17,000; $18,000
B. $18,000; $17,000
C. $20,000; $15,000
D. $15,000; $20,000
E. $10,000; $25,000

367. Tickets for the school play were $3 for students and $5 for all others. The box office sold 750 tickets for a total of $3,200. How many student tickets were sold?

A. 475
B. 275
C. 500
D. 250
E. 300

368. At a United Way fund raiser, students sold cinnamon buns for $2 each or 3 for $5. They sold 500 all together, and raised $900. How many of the 3 for $5 were sold?
   A. 100
   B. 200
   C. 300
   D. 250
   E. 150

369. Stavros sells gold and green fabric in his drapery store. He buys the same quantity of both each quarter for $18 per metre for the gold fabric and $20 for the green fabric. His last order totalled $2,290. The supplier has advised Stavros that the gold fabric will increase by 20% and the green fabric by 25%, and his total order for the next quarter will be $2813. How many metres of gold fabric does Stavros order each quarter?
   A. 65
   B. 56
   C. 85
   D. 55
   E. 25

370. What was the percent change in unit price when a box of tissues dropped from 200 to 150 tissues per box? (with no change in the price per box)?
   A. 25%
   B. 20%
   C. 30%
   D. 35%
   E. 33.3%

371. What was the percent change in unit price when a box of tissues dropped from 400 to 350 tissues per box? (with no change in the price per box)?
   A. 12.5%
   B. 15%
   C. 17.5%
   D. 11.7%
   E. 14.3%

372. What is the percent change in unit price of a bag of cookies if the number of cookies per box is decreased by 15% (with no change in the price per bag)?
   A. 17.6%
   B. 15%
   C. 20%
   D. 10%
   E. 11.1%

373. A loan company dropped the interest rate it charges on second mortgages from 9.5% to 7.9%. What percent reduction did this represent?
   A. 16%
   B. 16.8%
   C. 1.6%
   D. 20.3%
   E. 15.7%

374. A loan company dropped the interest rate it charges on second mortgages from 8.7% to 7.3%. What percent reduction did this represent?
   A. 1.4%
   B. 19.2%
   C. 16.1%
   D. 14%
   E. 15.6%

375. If the Canadian dollar is worth 18% less than the U.S. dollar, by what percentage does the U.S. dollar exceed the value of the Canadian dollar?
   A. 15%
   B. 18%
   C. 24%
   D. 21.95%
   E. 20%

376. If the Canadian dollar is worth 22% less than the U.S. dollar, by what percentage does the U.S. dollar exceed the value of the Canadian dollar?
   A. 22%
   B. 20%
   C. 25.2%
   D. 30.8%
   E. 28.2%

377. A car dealer normally lists cars at 25% above cost. During a sale the manger offered a 10% reduction. If a car sold for $20,812.50, what was the cost price to the dealership?
   A. $18,500
   B. $23,125
   C. $18,315
   D. $16,650
   E. $17,250

378. If the euro is worth 60% more than the Canadian dollar, how much less (in percentage terms) is the Canadian dollar worth than the euro?
   A. 40%
   B. 37.5%
   C. 62.5%
   D. 45%
   E. 55%

379. If the euro is worth 57% more than the Canadian dollar, how much less (in percentage terms) is the Canadian dollar worth than the euro?
   A. 43%
   B. 63.7%
   C. 36.3%
   D. 42%
   E. 45%

380. Simplify: 8 - (2x + 4y - 3) - (4y + 10)
   A. -8y - 2x + 21
   B. -8y - 2x + 1
   C. -8y - 2x - 2
   D. -2x + 1
   E. -2x + 21

381. (5x - 2y)(x - 2y) =
   A. $5x^2 - 12xy - 4y^2$
   B. $5x^2 + 8xy - 4y^2$
   C. $5x^2 - 12xy + 4y^2$
   D. $5x^2 - 8xy + 4y^2$
   E. $5x^2 + 12xy + 4y^2$

382. 2(b - 2) - (b - 2) =

A. b + 6
B. 3b - 2
C. 3b + 2
D. b - 2
E. b - 6

383. Evaluate: -4(r - t) - (2r - 4t) for r = 1/2 and t = 1/4.

A. 1
B. 5
C. 3
D. -5
E. -1

384. $\frac{6a+9}{3} - 4(a-1)$ =

A. -2a + 13
B. -2a - 1
C. -2a + 7
D. 2a + 7
E. 2a - 1

385. Evaluate: $L(1 - d_1)(1 - d_2)$ for L = \$1000, $d_1 = 0.30$, and $d_2 = 0.20$.

A. \$440.00
B. \$500.00
C. \$1,785.71
D. \$560.00
E. \$600.00

386. $2.48832^{1/5}$ =

A. 95.396217
B. 0.0104826
C. 1.2
D. 3.0
E. 0.8333333

387. $\left(\frac{r^3t^4}{t}\right)^3$ =

A. r^9t^4
B. r^6t^6
C. r^6t^7
D. r^9t^{11}
E. r^9t^9

388. $\frac{(r^9)^2(r^6)}{r^{12}}$ =

A. r^5
B. $r^{17/12}$
C. r^{12}
D. r^2
E. r^{36}

389. $(8^2)(2^{-4})(-2)^2$ =

A. 1024
B. 256
C. 4
D. 48
E. 16

390. Solve for x: $2x + \frac{1}{8}x = x + 10$

A. $3\frac{1}{5}$
B. $8\frac{8}{9}$
C. $-3\frac{1}{5}$
D. $4\frac{12}{17}$
E. $\frac{9}{80}$

391. Solve for x: 2/3 (x + 3) = -1/2 (6x + 20) + 15

A. $2\frac{5}{6}$
B. $\frac{9}{11}$
C. 1.5
D. $-2\frac{13}{22}$
E. 3.875

392. Solve for x: $-\left(\frac{1}{2}x - 5\right)$ = 2x - 10

A. 6
B. -6
C. -10
D. $3\frac{1}{3}$
E. 10

393. Solve for x: $\frac{x}{1.5^2} + 3x(1.5)^2 = 100$

A. 13.9082
B. 13.8996
C. 14.8148
D. 25.0000
E. 225.0000

394. An employee earns $1,562.50 for 55 hours of work during last week. His regular workweek is 40 hours and he gets overtime at time and one-half the regular rate of pay. What is the regular hourly rate of pay?

A. $37.50
B. $28.41
C. $42.61
D. $58.59
E. $25.00

395. The stock market index decreased this month by one-thirteenth of last month's index. If this month's index is 2,400, what was last month's index?
   A. 2,585
   B. 2,320
   C. 2,483
   D. 2,600
   E. 2,215

396. A company laid off 80% of its work force. The number of employees after the layoff is 3,000. How many employees were there before the layoff?
   A. 5,400
   B. 7,200
   C. 3,600
   D. 15,000
   E. 3,750

397. John and Jill agree to form a partnership. The partnership agreement requires that John invests $7,000.00 less than one-half of what Jill is to invest. If the total investment of both is $125,000.00, how much is Jill's investment?
   A. $88,000.00
   B. $37,000.00
   C. $78,666.67
   D. $46,333.33
   E. $74,393.33

398. If actual sales of $18,000 were 36% of budgeted sales, what were the budgeted sales?
   A. $50,000
   B. $52,920
   C. $25,920
   D. $10,080
   E. $46,080

399. What number is 25% less than 96?
   A. 120
   B. 128
   C. 384
   D. 72
   E. 125

400. 0.51% of $85,00.00 =
   A. $43,444.44
   B. $1663.04
   C. $43.44
   D. $166,304.35
   E. $434.44

401. 35% of $180.00 is what amount?
   A. $63.00
   B. $243.00
   C. $117.00
   D. $514.29
   E. $276.92

402. What number is $87\frac{1}{2}\%$ less than 250?
A. 218.75
B. 468.75
C. 133.33
D. 383.33
E. 31.25

403. After adding $2\frac{1}{4}\%$ to a sum of money, the new amount is $45,000.00. What was the original amount of money?
A. $43,987.50
B. $44,009.78
C. $2,000,000.00
D. $46,035.81
E. $20,000.00

404. Susan is paid a 15% commission of her sales. If she earns a commission of $3800, what was the amount of her sales?
A. $44,705.88
B. $25,333.33
C. $4470.59
D. $7030.00
E. $3230.00

405. An item listed at 40% above cost was sold by a dealer during a special sale at a 15% reduction from the list price. What did the item cost the dealer if it was sold for $23,765.00?
A. $23,494.81
B. $33,271.00
C. $19,970.59
D. $27,958.82
E. $43,965.25

406. After real estate fees of 3% had been deducted from the proceeds of the sale of a property, the real estate agent sent the vendor (seller) of the property $244,400. What was the amount of fees retained by the real estate agent?
A. $7,558.76
B. $251,958.76
C. $7,800.00
D. $7,118.45
E. $237,281.55

407. The retail price of an item is $625.50. This includes a markup of three-quarters of the wholesale cost to the retailer. What is the wholesale cost?
A. $1,094.63
B. $469.13
C. $834.00
D. $156.38
E. $357.43

408. $100 is what percent less than $125?
A. 125%
B. 45%
C. 25%
D. 20%
E. 15%

409. What sum of money, increased by 7% equals $187.25?
   A. $200.36
   B. $174.14
   C. $180.25
   D. $175.00
   E. $170.00

410. How much is 600 increased by 44%
   A. 840
   B. 644
   C. 864
   D. 1,367
   E. 788

411. What amount, when reduced by 60% equals $840
   A. $336
   B. $900
   C. $1,680
   D. $1,400
   E. $2,100

412. After a 5.25% raise, Johnny earned $19.28 per hour. What was his hourly rate before the raise?
   A. $18.27
   B. $18.32
   C. $20.26
   D. $18.78
   E. $10.11

413. The population of Enfield has increased by 36% over the last five years. If the current population is 89,244 what was it 5 years ago?
   A. 65,621
   B. 53,244
   C. 19,182
   D. 57,123
   E. 70,377

414. How much is 50 increased by 300%?
   A. 350
   B. 300
   C. 250
   D. 200
   E. 150

415. What percent of 36 is 90?
   A. 150%
   B. 140%
   C. 175%
   D. 200%
   E. 250%

416. A retailer purchases merchandise at 25% below the suggested retail price. If the retailer pays $375 for an item, what is the suggested retail price?
   A. $468.75
   B. $500.00
   C. $525.00
   D. $475.00
   E. $450.00

417. The share value of Rip-off Technologies has dropped this year by 85%, to a new low of $7.50 per share. How much money has been lost per share?
A. $42.50
B. $63.75
C. $8.82
D. $92.50
E. $15.00

418. During the last 30 years the price of gasoline has increased by 440%. If the current price per litre is $0.589, what was it 30 years ago?
A. $0.201
B. $0.149
C. $0.134
D. $0.109
E. $0.037

419. Bart purchased three-quarters of a 32% interest in a Swiss Chalet franchise for $270,000. What is implied value of the franchise?
A. $115,200
B. $632,800
C. $980,750
D. $1,125,000
E. $1,625,000

420. Solve for x and y:
$x + y = 40$
$-x + y = -20$
A. $x = 30; y = 10$
B. $x = -10; y = 30$
C. $x = -30; y = -10$
D. $x = -60; y = 20$
E. $x = -60; y = -20$

421. Solve for x and y:
$2x + 3y = 7$
$3x - y = 5$
A. $x = 6; y = 2$
B. $x = -2; y = 1$
C. $x = -2; y = -1$
D. $x = 2; y = 1$
E. $x = 2; y = -1$

422. The difference between two numbers is 42. If one-half of the larger number is three more than twice the smaller number, what are the two numbers?
A. -12 and -54
B. 12 and 54
C. 16.0 and 58.0
D. 11 and 31
E. -12.5 and 29.5

423. Solve for x and y in the following pair of equations:
$y = -0.2x + 4.2$
$x - 0.5y = 10$
A. $x = 11; y = 2$
B. $x = 2; y = 11$
C. $x = 11; y = 6.4$
D. $x = 6.45; y = 2.9$
E. $x = 6.4; y = 11$

424. Calculate the final result to two decimal places, where x = $6.80

$$\frac{3x}{1.065} + \frac{8.3x}{13} + .07(8.8x - 20)$$

A. $26.28
B. $27.38
C. $28.48
D. $18.58
E. $30.28

425. Calculate the final result to two decimal places, where f = $8.25

$$\frac{f}{(1 + .067)^3} - 4f(1 - .067)^4$$

A. -15.22
B. - 18.22
C. 12.22
D. 15.22
E. 18.22

426. Calculate the final result to two decimal places, where z = .1515

$$\frac{z}{4} + z^4 + \frac{7}{9} - .25z^2 + \frac{2}{3}$$

A. .48
B. 2.65
C. 1.48
D. 3.22
E. 5.48

427. Calculate the result to the nearest cent given n = 3; I = .087 and R = $925

$$\frac{R}{i}\left[1 - \frac{1}{(1+i)^n}\right]$$

A. $18,716.57
B. $22,512.13
C. $5,341.55
D. $2,353.96
E. $2,158.21

428. Calculate the result to two decimal places given t = 1.25

$$(t^8)^{\frac{5}{6}}$$

A. 4.43
B. 5.27
C. 3.85
D. 4.67
E. 3.10

429. Calculate the result to four decimal places given r = 1.3 and t = 2.6

$$\frac{5r^6t^8}{(7r^2t)^4}$$

A. 1.0683
B. .0563
C. .0885
D. 1.2573
E. 6.2675

430. Solve the following to four decimal places

$$\frac{1 + 1.0385^{-5}}{.0385}$$

A. 49.5768
B. 45.1526
C. 47.4774
D. 21.6818
E. 32.9871

431. Solve the following to four decimal places $\left[\left(\frac{2}{3}\right)^{-4}\right]^{-2}$

A. 1.0390
B. 0.0678
C. 0.0412
D. 0.0390
E. 0.0098

432. Solve for the unknown rounded to the nearest dollar. $\frac{x}{1.036^4} + 4x(2.6)^{-2} = 2{,}189.70$

A. 1,500
B. 2,500
C. 1,750
D. 3,750
E. 875

433. Solve for the unknown rounded to the nearest cent. $\frac{5x}{1.06^{-3}} + x + x(1.25)^4 = 925$

A. 108.74
B. 98.44
C. 68.41
D. 15.25
E. 88.67

434. Solve for the unknown rounded to two decimal places $\frac{4x}{1.15^3} - 1{,}000 - \frac{x}{1.098^6} = \frac{4{,}580}{1.25^{-2}}$

A. 1,875.13
B. 2,388.44
C. 3,960.52
D. 4,137.68
E. 5,408.77

435. Solve for the unknown rounded to two decimal places $\frac{8x}{1.22^{-4}} + 2{,}000 = \frac{7{,}820}{2.05^3} + \frac{x}{1.011^5}$

A. 17.68
B. 24.67
C. -24.22
D. -65.11
E. -85.28

436. Ajax Corporation has $48,000 to spend on advertising and is considering radio, television and newspaper ads. For radio ads, Ajax will spend a quarter of what it will spend on newspaper ads. For television ads, it will also spend 70% of what it will spend on radio ads. How much will the company spend on radio, newspaper and television ads respectively?

A. radio = $8,421; newspaper = $33,684; television = $5,985
B. radio = $5,985; newspaper = $33,684; television = $8,421
C. radio = $33,684; newspaper = $5,985; television = $8,421
D. radio = $12,000; newspaper = $24,000; television = $12,000
E. radio = $6,000; newspaper = $30,000; television = $12,000

437. It takes 40 minutes to produce product A and 60 minutes to produce product B. Last week 60 Hours were used in manufacturing both products. A total of 140 units were produced. Determine the number of product A and B produced.
   A. Product A = 100; Product B = 40
   B. Product A = 40; Product B = 100
   C. Product A = 80; Product B = 60
   D. Product A = 70; Product B = 70
   E. Product A = 60; Product B = 80

438. A project manager needs to allocate a staff of 460 employees to a 3-stage project. Stage 2 must have 20% more staff than Stage 1. Stage 3 required 50% more than Stage 2. Determine the number of employees needed for stage 1, 2 and 3 respectively.
   A. Stage 1 = 115; Stage 2 = 138; Stage 3 = 207
   B. Stage 1 = 120; Stage 2 = 120; Stage 3 = 320
   C. Stage 1 = 320; Stage 2 = 120; Stage 3 = 120
   D. Stage 1 = 207; Stage 2 = 115; Stage 3 = 138
   E. Stage 1 = 200; Stage 2 = 100; Stage 3 = 60

439. A moving company charges an hourly rate plus a per kilometer rate. Sam paid $128.50 for his rental, having traveled 77 km over a 6 hour period. Taylor paid $205 for her rental, having traveled 140 km over a nine hour period. Determine the hourly rate and per km rate charged by the rental company.
   A. Hourly rate = $20; km rate = $.25
   B. Hourly rate = $18; km rate = $.50
   C. Hourly rate = $15; km rate = $.50
   D. Hourly rate = $12; km rate = $.75
   E. Hourly rate = $15; km rate = $.75

440. The Vancouver Real Estate Board stated that the average house price was $405,000 this year; an 8% increase over the same time last year. Determine the average house price last year.
   A. 355,000
   B. 365,000
   C. 375,000
   D. 385,000
   E. 395,000

441. BCIT is considering decreasing its student to teacher ratio by 20%. Currently there are 35 students per instructor. By what amount should instructors be increased?
   A. 25%
   B. 20%
   C. 45%
   D. 15%
   E. 10%

442. A car dealership's lists price on cars is 18% above cost. Recently a demo was sold for $21,000, which is 15% off the list price. Determine the cost of the demo vehicle.
   A. $21,500
   B. $20,907
   C. $20,500
   D. $19,750
   E. $17,750

443. New computer hardware uses 40% less energy than the current model. How much more efficient is the new computer?
   A. 100%
   B. 60%
   C. 40%
   D. 67%
   E. 33%

444. When x is 3, the result of $5x^3 + 7x^2 - 30$ is 127.
True False

445. When N = \$135 and d = .085, the result of $\frac{N}{1+d}$ is \$124.42
True False

446. When x = 6, then the result of $\frac{5x+12}{7} - 1.5(x-2)$ is 0.
True False

447. The final value of $(d^7)^4$ is d^{11}
True False

448. The final value of $\frac{(b^{10})(b^{18})}{b^{15}}$ is b^{13}
True False

449. The final value of $15^{\frac{2}{3}}$ is 10.25
True False

450. The final value of x is 134.40 given the formula $\frac{x}{1.2^3} + 3x(1.4)^2 = 1{,}500$
True False

451. The final value of x is 325.25 given the formula $x(1.08)^5 + 1{,}500 + \frac{x}{1.04^{-3}} = \frac{2{,}800}{1.04^6}$
True False

452. The value of c is 4 given the formula $21c - 15 = 18 - 12c$
True False

453. 75 is 20% more than 60?
True False

454. The net amount after a 34% reduction on \$180 is \$122.5
True False

455. A \$97.50 increase on \$750 is a 13%.
True False

02 Key

1. Simplify and collect like terms: $(-p) + (-3p) + (4p)$

   0

Difficulty: Easy
Jerome - Chapter 02 #1
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

2. Simplify and collect like terms: $(5s - 2t) - (2s - 4t)$

   $3s + 2t$

Difficulty: Easy
Jerome - Chapter 02 #2
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

3. Simplify and collect like terms: $4x^2y + (-3x^2y) - (-5x^2y)$

   $6x^2y$

Difficulty: Easy
Jerome - Chapter 02 #3
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

4. Simplify and collect like terms: $1 - (7e^2 - 5 + 3e - e^3)$

   $e^3 - 7e^2 - 3e + 6$

Difficulty: Easy
Jerome - Chapter 02 #4
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

5. Simplify and collect like terms: $\left(6x^2 - 3xy + 4y^2\right) - \left(8y^2 - 10xy - x^2\right)$

   $7x^2 + 7xy - 4y^2$

Difficulty: Easy
Jerome - Chapter 02 #5
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

6. Simplify and collect like terms: $\left(7m^3 - m - 6m^2 + 10\right) - \left(5m^3 - 9 + 3m - 2m^2\right)$

$2m^3 - 4m^2 - 4m + 19$

Difficulty: Easy
Jerome - Chapter 02 #6
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

7. Simplify and collect like terms: $2(7x - 3y) - 3(2x - 3y)$

$8x + 3y$

Difficulty: Easy
Jerome - Chapter 02 #7
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

8. Simplify and collect like terms: $4(a^2 - 3a - 4) - 2(5a^2 - a - 6)$

$-6a^2 - 10a - 4$

Difficulty: Easy
Jerome - Chapter 02 #8
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

9. Simplify and collect like terms: $15x - [4 - 2(5x - 6)]$

$25x - 16$

Difficulty: Easy
Jerome - Chapter 02 #9
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

10. Simplify and collect like terms: $6a - [3a - 2(2b - a)]$

$a + 4b$

Difficulty: Medium
Jerome - Chapter 02 #10
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

11. Simplify and collect like terms: $\frac{2x + 9}{4} - 1.2(x - 1)$

$-0.7x + 3.45$

Difficulty: Medium
Jerome - Chapter 02 #11
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

12. Simplify and collect like terms: $\frac{x}{2}-x^2+\frac{4}{5}-0.2x^2-\frac{4}{5}x+\frac{1}{2}$

$-1.2x^2 -0.3x + 1.3$

Difficulty: Medium
Jerome - Chapter 02 #12
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

13. Simplify and collect like terms: $\frac{8x}{0.5}+\frac{5.5x}{11}+0.5(4.6x-17)$

18.8x - 8.5

Difficulty: Medium
Jerome - Chapter 02 #13
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

14. Simplify and collect like terms: $\frac{2x}{1.045}-\frac{2.016x}{3}+\frac{x}{2}$

1.7419x

Difficulty: Medium
Jerome - Chapter 02 #14
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

15. Simplify and collect like terms: $\frac{P}{1+0.095\times\frac{5}{12}}+2P\left(1+0.095\times\frac{171}{365}\right)$

3.0509P

Difficulty: Hard
Jerome - Chapter 02 #15
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

16. Simplify and collect like terms: $y\left(1-0.125\times\frac{213}{365}\right)+\frac{2y}{\left(1+0.125\times\frac{88}{365}\right)}$

2.8685y

Difficulty: Hard
Jerome - Chapter 02 #16
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

17. Simplify and collect like terms: $k(1+0.04)^2 + \frac{2k}{(1+0.04)^2}$

2.9307k

Difficulty: Hard
Jerome - Chapter 02 #17
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

18. Simplify and collect like terms: $\frac{h}{(1+0.055)^2} - 3h(1+0.055)^3$

-2.6243h

Difficulty: Hard
Jerome - Chapter 02 #18
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

19. Perform the operation indicated and collect like terms: $4a(3ab - 5a + 6b)$

$12a^2b - 20a^2 + 24ab$

Difficulty: Easy
Jerome - Chapter 02 #19
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

20. Perform the operation indicated and collect like terms: $9k(4 - 8k + 7k^2)$

$36k - 72k^2 + 63k^3$

Difficulty: Easy
Jerome - Chapter 02 #20
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

21. Perform the operation indicated and collect like terms: $-5xy(2x^2 - xy - 3y^2)$

$-10x^3y + 5x^2y^2 + 15xy^3$

Difficulty: Easy
Jerome - Chapter 02 #21
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

22. Perform the operation indicated and collect like terms: $-(p^2 - 4pq - 5p)\left(\frac{2q}{p}\right)$

$-2pq + 8q^2 + 10q$

Difficulty: Easy
Jerome - Chapter 02 #22
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

23. Perform the operation indicated and collect like terms: $(4r - 3t)(2t + 5r)$

$20r^2 - 7rt - 6t^2$

Difficulty: Easy
Jerome - Chapter 02 #23
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

24. Perform the operation indicated and collect like terms: $(3p^2 - 5p)(-4p + 2)$

$-12p^3 + 26p^2 - 10p$

Difficulty: Easy
Jerome - Chapter 02 #24
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

25. Perform the operation indicated and collect like terms: $3(a - 2)(4a + 1) - 5(2a + 3)(a - 7)$

$2a^2 + 34a + 99$

Difficulty: Easy
Jerome - Chapter 02 #25
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

26. Perform the operation indicated and collect like terms: $5(2x - y)(y + 3x) - 6x(x - 5y)$

$24x^2 + 25xy - 5y^2$

Difficulty: Easy
Jerome - Chapter 02 #26
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word

27. Perform the operation indicated and collect like terms: $\frac{18x^2}{3x}$

$6x$

Difficulty: Easy
Jerome - Chapter 02 #27
Learning Objective: 2.1
Source: Text
Topic: Algebra
Type: Word