

§ 3.A USES & ABUSES OF RATIOS

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17. $\frac{2}{5} = .4 = 40\%$

19. $\frac{1}{5} = .2 = 20\%$

21. $\frac{3}{2} = 1.5 = 150\%$

23. $\frac{4}{9} = .\overline{44} = 44.\overline{44}\%$

25. $\frac{5}{8} = .625 = 62.5\%$

27. $\frac{69}{100} = .69 = 69\%$

29. $\frac{7}{5} = 1.4 = 140\%$

31. $\frac{4}{3} = 1.\overline{33} = 133.\overline{33}\%$

33. (a) $\frac{A}{B} = \frac{8}{4} = 2$ (c) A is 200% of B.

(b) $\frac{B}{A} = \frac{4}{8} = \frac{1}{2}$

35. (a) $\frac{A}{B} = \frac{150}{400} = \frac{3}{8}$ (c) A is 12.5% of B

(b) $\frac{B}{A} = \frac{400}{150} = \frac{8}{3}$

37. (a) $\frac{A}{B} = \frac{52252}{16268}$ (c) A is 321.2% of B

(b) $\frac{B}{A} = \frac{16268}{52252}$

39. (a) $\frac{A}{B} = \frac{3.9 \text{ MILL}}{2.9 \text{ MILL}} = \frac{39}{29}$ (c) A is 134.5% of B.

(b) $\frac{B}{A} = \frac{29}{39}$

41. (a) $\frac{A}{B} = \frac{2290000}{2010000} = \frac{229}{201}$

(b) $\frac{B}{A} = \frac{201}{229}$ (c) A is 103.6% of B

53. ABS. CHANGE = 308 MILL - 249 MILL = 59 MILL

% CHANGE = $\frac{59 \text{ MILL}}{249 \text{ MILL}} \approx .237 \rightarrow$ 23.7% INCREASE

55. ABS CHANGE = $1420 - 2226 = \underline{-806}$

% CHANGE = $\frac{-806}{2226} \approx -.362 \rightarrow \underline{36.2\% \text{ DECREASE}}$

57. $\frac{266 - 220}{220} \approx .209 \rightarrow \boxed{20.9\%}$

59. $\frac{2800 - 4200}{4200} \approx -.333 \rightarrow \boxed{33.3\%}$

61. $\frac{25500 - 21400}{21400} \approx .192 \rightarrow \boxed{19.2\%}$

63. $100\% + 22\% = \boxed{122\%}$

65. $100\% - 18\% = \boxed{82\%}$

67. $1 - .4 = \boxed{.6}$

69. $1 + .3 = \boxed{1.3}$

71. UP 0.5 PERCENTAGE POINTS

$$\frac{2.8 - 2.3}{2.3} \approx .217 \rightarrow \underline{\text{UP } 21.7\%}$$

73. UP 11.6 PERCENTAGE POINTS

$$\frac{78.5 - 66.9}{66.9} \approx .173 \rightarrow \underline{\text{UP } 17.3\%}$$

75. 1. 33% - 10% MORE THAN 30% IS 33%

2. 40% - 10 PERCENTAGE POINTS MORE THAN 30% IS 40%

77. $1.076 \times 760 = \boxed{\$817.76}$

79. $.54 \times U = 2410 \rightarrow U = \frac{2410}{.54} \approx \boxed{4462}$

81. $1.20 \times B = 76.40 \rightarrow B = \frac{76.40}{1.20} \approx \boxed{\$63.67}$

83. $.79 \times G = 2200 \rightarrow G = \frac{2200}{.79} \approx \boxed{\$2784.81}$

85. FALSE.

$$100 \xrightarrow{\downarrow 4\%} 96 \xrightarrow{\downarrow 4\%} 92.16 \xrightarrow{\downarrow 4\%} 88.4736$$

... SHRANK BY 11.5264% over 3 yr PERIOD

87. FALSE

$$100 \xrightarrow{\uparrow 4\%} 104 \xrightarrow{\downarrow 2\%} 101.92$$

... PROFITS UP 1.92%

89. No. COSTS CANNOT DECREASE BY MORE THAN 100%

90. Yes. HE IS 2.4 TIMES THE HEIGHT OF HIS SON.

91. Yes. PRICES HAVE DOUBLED.

92. No. HER TIME COULD NOT DECREASE 100% (TO ZERO!)

93. Yes, IT PERFORMS $6 \times$ THE # OF CALCULATIONS PER SECOND
OF MY COMPUTER

94. No. 100% SLOWER IS \bigcirc CALCULATIONS.