

A.N.5: Ratios: Solve algebraic problems arising from situations that involve fractions, decimals, percents (decrease/increase and discount), and proportionality/direct variation

- 1 A total of \$450 is divided into equal shares. If Kate receives four shares, Kevin receives three shares, and Anna receives the remaining two shares, how much money did Kevin receive?
 - 1) \$100
 - 2) \$150
 - 3) \$200
 - 4) \$250
- 2 During a recent winter, the ratio of deer to foxes was 7 to 3 in one county of New York State. If there were 210 foxes in the county, what was the number of deer in the county?
 - 1) 90
 - 2) 147
 - 3) 280
 - 4) 490
- 3 Sterling silver is made of an alloy of silver and copper in the ratio of 37:3. If the mass of a sterling silver ingot is 600 grams, how much silver does it contain?
 - 1) 48.65 g
 - 2) 200 g
 - 3) 450 g
 - 4) 555 g
- 4 There are 357 seniors in Harris High School. The ratio of boys to girls is 7:10. How many boys are in the senior class?
 - 1) 210
 - 2) 147
 - 3) 117
 - 4) 107
- 5 At the Phoenix Surfboard Company, \$306,000 in profits was made last year. This profit was shared by the four partners in the ratio 3:3:5:7. How much *more* money did the partner with the largest share make than one of the partners with the smallest share?
- 6 The profits in a business are to be shared by the three partners in the ratio of 3 to 2 to 5. The profit for the year was \$176,500. Determine the number of dollars each partner is to receive.

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Answer Section

1 ANS: 2

$$450 \times \frac{3}{9} = 150$$

PTS: 2

REF: 069913a

TOP: Ratios

2 ANS: 4

$$\frac{7}{3} = \frac{x}{210}$$

$$3x = 1470$$

$$x = 490$$

PTS: 2

REF: 069915a

TOP: Ratios

3 ANS: 4

$$600 \times \frac{37}{40} = 555$$

PTS: 2

REF: 010014a

TOP: Ratios

4 ANS: 2

$$357 \times \frac{7}{17} = 147$$

PTS: 2

REF: 010210a

TOP: Ratios

5 ANS:

$$\begin{array}{rcl} \$68,000. & 306000 \times \frac{3}{18}. & 306000 \times \frac{7}{18}. \\ & = 51000 & = 119000 \end{array} \quad 119000 - 51000 = 68000$$

PTS: 4

REF: 010331a

TOP: Ratios

6 ANS:

$$\$52,950, \$35,300, \$88,250. \quad 176500 \times \frac{3}{10} = 52950. \quad 176500 \times \frac{2}{10} = 35300. \quad 176500 \times \frac{5}{10} = 88250$$

PTS: 4

REF: 089931a

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