1st 5

Solve.

1) $\frac{x}{3} = \frac{5}{6}$ $6x = 15$, $\frac{6x}{6} = \frac{15}{6}$, $x = \frac{5}{2} = 2\frac{1}{2}$

2) $\frac{(y+2)}{3} = \frac{6}{2}$ $2y + 4 = 18$, $-4 \quad -4$, $2y = 14$, $y = 7$

3) Find the unit rate if a 8 ounce bottle of water costs $ 1.69

$\frac{\$1.69}{8\ oz}$ $\frac{\$.21125}{1\ oz}$

Ratio and Proportion Day 2

PW1 p.46 workbook

Practice 4-1

1. $7.50/h 2. $0.75/lb 3. 287 bagels/d 4. 680 cal/h
5. $0.56/oz 6. $.94/oz 7. no; 168 ≠ 180 8. yes; 90 = 90
9. yes; 72 = 72 10. yes; 16 = 16 11. no; −24 ≠ −25.6

$\frac{\$}{h}$ $\frac{bagels}{d}$

Ratio and Proportion Day 2

12. 3 14. 26.4 16. 2.5 18. 16
20. 22.5 22. 15 24. 3
26. 40 28. 2 30. 4.8 32. 45
34. 30.25 36. $-\frac{5}{3}$ 38. 2.75
40. −5

(20) $\frac{4}{9} = \frac{10}{r}$, $\frac{4r}{4} = \frac{90}{4}$, $r = \frac{45}{2} = 22\frac{1}{2}$

(30) $\frac{3}{y} = \frac{5}{8}$, $\frac{5y}{5} = \frac{24}{5}$, $y = \frac{24}{5} = 4\frac{4}{5} = 4.8$

Ratio and Proportion Day 2

(38) $\frac{2x-2}{14} = \frac{2x-4}{6}$

$12x - 12 = 28x - 56$
$-12x \quad -12x$

$-12 = 16x - 56$
$+56 \quad +56$

$\frac{44}{16} = \frac{16x}{16}$

$\frac{22}{8}$ $\frac{11}{4} = x$, $2\frac{3}{4} = x$, 2.75

Ratio and Proportion Day 2

(40) $\frac{x+2}{6} = \frac{x-1}{12}$

$12x + 24 = 6x - 6$
$-6x \quad -6x$

$6x + 24 = -6$
$-24 \quad -24$

$\frac{6x}{6} = \frac{-30}{6}$

$x = -5$

Ratio and Proportion Day 2

(34) $\frac{18}{11} = \frac{49.5}{x}$

$\frac{18x}{18} = \frac{544.5}{18}$

$x = 30.25$

(11) $\frac{-4.8}{4} = \frac{-6.4}{5}$

$-24 \neq -25.6$
NO

Ratio and Proportion Day 2

Proportions and Percent Equations

- Recall that a percent is a ratio that compares a number to 100. For example 23 % = $\frac{23}{100}$. You can solve a percent problem by writing and solving a proportion.
- Percent { $\frac{part\ (is)}{whole\ (of)} = \frac{\%}{100}$

percent of change = $\frac{\text{original amount} - \text{new}}{\text{original}}$

- Finding the Percent

$\frac{is}{of} = \frac{\%}{100}$

  - What percent of 80 is 18?

$\frac{18}{80} = \frac{x}{100}$ $\quad \frac{80x}{80} = \frac{1800}{80}$ $\quad x = 22.5\%$

  - What percent of 40 is 30?

$\frac{30}{40} = \frac{x}{100}$ $\quad \frac{40x}{40} = \frac{3000}{40}$ $\quad x = 75\%$

- Finding the Part
  - Find 75% of 320.

$\frac{x}{320} = \frac{75}{100}$ $\quad \frac{100x}{100} = \frac{24000}{100}$ $\quad x = 240$

  - Find 30% of 40.

$\frac{x}{40} = \frac{30}{100}$ $\quad \frac{100x}{100} = \frac{1200}{100}$ $\quad x = 12$

- According to the United States Geological Survey, surface water accounts for 77.6% of our country's total water supply. The surface water supply is about 264.4 billion gallons per day. Find the total water supply.

part / whole = part

$\frac{264.4}{x} = \frac{77.6}{100}$

$77.6x = 26440$

$x = 340.7$ billion gals of water

- Carlos worked 31.5 hours at a hospital as a volunteer. This represents 87.5% of his school's requirement for community service. How many hours does his school require for community service?

part / whole

$\frac{31.5}{x} = \frac{87.5}{100}$

$\frac{87.5x}{87.5} = \frac{3150}{87.5}$

$x = 36$ hours

- On Your Own – Practice Problems
  - What percent of 45 is 10?

$\frac{10}{45} = \frac{x}{100}$ $\quad \frac{45x}{45} = \frac{1000}{45}$ $\quad x = 22.2\%$

  - What is 16% of 261?

$\frac{x}{261} = \frac{16}{100}$ $\quad \frac{100x}{100} = \frac{4176}{100}$ $\quad x = 41.76$

  - 71% of what number is 87?

$\frac{87}{x} = \frac{71}{100}$

$\frac{71x}{71} = \frac{8700}{71}$ $\quad x = 122.5$

- Percents Greater Than 100% and Less Than 1%
  - What percent of 90 is 135?

$\frac{135}{90} = \frac{x}{100}$ $\frac{90x}{90} = \frac{13500}{90}$ $x = 150\%$

  - What is 0.48% of 250?

$\frac{x}{250} = \frac{.48}{100}$ $\frac{100x}{100} = \frac{120}{100}$ $x = 1.2$

Ratio and Proportion Day 2

- Using Estimation
  - Estimate the number that is 32% of 241.

10% of 241 = 24.1
24.3 (72) actual = 77.12

  - Using estimation, find 49% of 280?

49% close to 50%
50% is ½
½ · 280 = (140) actual 137.12

Ratio and Proportion Day 2

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- Workbook pg. 50 # 1 – 23, 27 – 41
- ~~TURN IN~~ on separate sheet of paper. SHOW YOUR WORK!

Ratio and Proportion Day 2