2nd 9 weeks exam review

Disclaimer:

- Simply copying down the answers will NOT guarantee you will pass the final exam!
- You must go home and repeatedly study the practice problems and process
- In addition, study notes, textbooks, power points, class activities, etc.

Disclaimer #2:

- Although you may be exempting the final, you are still required to know this material for Milestones so please follow along and ask questions when assistance is needed.

Ch. 4

Solve each equation. Check yo

1. $y - 5 = -4$

$+5 \quad +5$

$y = 1$

2. $n - 9 = -14$

$+9 \quad +9$

$n = -5$

$$(5)\frac{d}{5} = -7\,(5)$$

$d = -35$

$$(4)\,12 = \frac{w}{4}\,(4)$$

$$48 = w$$

$$5.\ w - 16.7 = 8.27$$

$$+16.7 \qquad +16.7$$

$$w = 24.97$$

$$(7.4)\,\frac{e}{7.4} = 6.9\,(7.4)$$

$$e = 51.06$$

$$-\frac{1}{4}s = \frac{3}{4} \cdot \frac{-4}{1}$$

multiply by the reciprocal

$$\frac{-12}{4} \quad \frac{\div 4}{\div 4}$$

$$-3$$

$$S = -3$$

$$\frac{1}{5}a = \frac{1}{2} \cdot \frac{5}{1}$$

$$\frac{5}{2}$$

$$2\frac{1}{2}$$

$$a = 2\frac{1}{2}$$

9. $d - \frac{3}{5} = -\frac{7}{10}$

$+\frac{3}{5}$ $+\frac{3}{5}\cdot\frac{2}{2}$

$\frac{-7}{10} + \frac{6}{10}$

$d = \frac{-1}{10}$

10. $c + \frac{5}{12} = 2\frac{1}{6}$ $\cdot\frac{2}{2}$

$-\frac{5}{12}$ $-\frac{5}{12}$

$\frac{13}{6}\cdot\frac{2}{2}$ $\frac{26}{12} - \frac{5}{12}$

$d = \frac{21}{12}$ $1\frac{9}{12}$

$1\frac{3}{4}$

Ch. 5

Solve. Check each answer.

1. $-3y - 7 = 2$

$+7 \quad +7$

$-3y = 9$

$\frac{-3y}{-3} = \frac{9}{-3}$

$y = -3$

2. $\frac{u}{5} + 3 = 1$

$-3 \quad -3$

$\frac{u}{5} = -2$

$u = -10$

3. $6 + \frac{z}{9} = 9$

$-6 \quad -6$

$\frac{z}{9} = 3$

$z = 27$

4. $\frac{1}{4}x - 3 = \frac{2}{5}$

5. $\frac{1}{6}x + 2 = \frac{1}{3}$

GCF = 20

$(20)\frac{1}{4}x - (20)3 = (20)\frac{2}{5}$

$5x - 60 = 8$

$+60 \quad +60$

$5x = 68$

$\frac{5x}{5} = \frac{68}{5}$

$x = 13.6$

$(6)\frac{1}{6}x + (6)2 = (6)\frac{1}{3}$

$x + 12 = 2$

$-12 \quad -12$

$x = -10$

6. $4k - 14 + 3k = 21$

$7k - 14 = 21$

$+14 \quad +14$

$7k = 35$

$\frac{7k}{7} = \frac{35}{7}$

$k = 5$

7. $9m + 10 - 14m = -5$

$-5m + 10 = -5$

$-10 \quad -10$

$-5m = -15$

$\frac{-5m}{-5} = \frac{-15}{-5}$

$m = 3$

8. $6 = 8(s - \frac{3}{4}) - 20$

8s 6

$6 = 8s - 6 - 20$

$6 = 8s - 26$

+26 + 26

$\frac{32}{8} = \frac{8s}{8}$

$4 = s$

9. $1.4 - 1.6(t + 6) = 4.6$

-1.6t -9.6

$1.4 - 1.6t - 9.6 = 4.6$

$-1.6t - 8.2 = 4.6$

+8.2 + 8.2

$-1.6t = 12.8$

$\frac{-1.6t}{-1.6} = \frac{12.8}{-1.6}$

$t = -8$

ch.5 Inequalities

Solve and graph each inequality.

1. $41 + g > 27$

-41 -41

$g > -14$

3. $78 \geq b + 64$

-64 -64

$14 \geq b$

$b \leq 14$

5. $\frac{-16a}{-16} \geq \frac{-24}{-16}$

÷ neg= flip

$a \leq 1.5$

2. $-3 \leq t + 17$

-17 -17

$-20 \leq t$

$t \geq -20$

X neg= flip (-6) $\frac{t}{-6} < -7$ (-6)

$t > 42$

(5.3) $\frac{r}{5.3} \leq 6$ (5.3)

$r \leq 31.8$

7. $-7d + 8 > 29$

$-8 \quad -8$

$-7d > 21$

$-7 \quad -7$

$d > -3$

8. $4(g - 3) + 1 \leq 5$

$4g - 12 + 1 \leq 5$

$4g - 11 \leq 5$

$+11 \quad +11$

$4g \leq 16$

$4 \quad 4$

$g \leq 4$

9. $2(-a - 8) - 15 < 9$

$-2a - 16 - 15 < 9$

$-2a - 31 < 9$

$+31 \quad +31$

$-2a < 40$

$-2 \quad -2$

$a > -20$

10. $\frac{1}{3}p - 8 - p \geq 4$

$-2/3\ p - 8 \geq 4$

$+8 \quad +8$

$(-3/2) \quad -2/3\ p \geq 12 \quad (-3/2)$

$p \leq -18$

Ch. 6

Find the unit rate.

1. Maria earns $603.75 for 35 hours of work. What is her rate of pay per hour?

$$\frac{\$603.75}{35 \text{ hrs}} = \frac{\$17.25}{1 \text{ hr}}$$

2. The Ranch House serves a 24 oz sirloin steak that has a total of 1,800 calories. How many calories per ounce does the steak have?

$$\frac{1{,}800 \text{ cal}}{24 \text{ oz}} = \frac{75 \text{ cal}}{1 \text{ oz}}$$

3. Kia stuffs 228 envelopes in an hour. What is the average number of envelopes Kia stuffs per minute?

Can't have a partial envelope

$$\frac{228 \text{ env.}}{60 \text{ mins}} = \frac{3.8}{1 \text{ min}} = \frac{3}{1 \text{ min}}$$

Determine whether the ratios are proportional.

4. $\frac{3}{4}, \frac{24}{32}$ — 96, 96

Proportional

5. $\frac{5}{6}, \frac{15}{18}$ — 90, 90

Proportional

6. $\frac{10}{12}, \frac{20}{32}$ — 320, 240

Not Proportional

Multiply or Divide the top and bottom of the ratio by ANY #

There are multiple correct answers for this section.
Possible ans below.

Find a ratio equivalent to each ratio.

7. $\frac{7}{9} = \frac{70}{90}$ 8. $\frac{11}{12} = \frac{22}{24}$ 9. $\frac{14}{15} = \frac{70}{75}$

Use cross products to solve each proportion.

9. $\frac{3}{7} = \frac{x}{49}$

$147 = 7x$

$\frac{147}{7} = \frac{7x}{7}$

$21 = x$

10. $\frac{15}{h} = \frac{5}{17}$

$255 = 5h$

$\frac{255}{5} = \frac{5h}{5}$

$51 = h$

11. $\frac{1.7}{3} = \frac{d}{21}$

$35.7 = 3d$

$\frac{35.7}{3} = \frac{3d}{3}$

$11.9 = x$

12. $\frac{3.7}{3} = \frac{s}{21}$

$77.7 = 3s$

$\frac{77.7}{3} = \frac{3s}{3}$

$25.9 = s$

13. $\frac{17}{41} = \frac{34}{f}$

$1394 = 17f$

$\frac{1394}{17} = \frac{17f}{17}$

$82 = f$

14. Asanji took a trip to Mexico. Upon leaving he decided to convert all of his Pesos back into dollars. How many dollars did he receive if he exchanged 42.7 Pesos at a rate of $5.30 = 11.1 Pesos?

$$\frac{\$5.30}{11.1 \text{ Pesos}} = \frac{X}{42.7 \text{ Pesos}}$$

$$226.31 = 11.1x$$

$$\frac{226.31}{11.1} = \frac{11.1x}{11.1}$$

$$\$20.39 = x$$

15. The currency in Argentina is the Peso. The exchange rate is approximately $3 = 1 Peso. At this rate, how many Pesos would you get if you exchanged $121.10?

$$\frac{\$3}{1 \text{ Peso}} = \frac{\$121.10}{x}$$

$$121.10 = 3x$$

$$\frac{121.10}{3} = \frac{3x}{3}$$

$$40.4 \text{ Pesos} = x$$

16. Mary reduced the size of a painting to a width of 3.3 in. What is the new height if it was originally 32.5 in tall and 42.9 in wide?

$$\frac{3.3 \text{ in}}{42.9} = \frac{x}{32.5}$$

$$2.5 = x$$

17. Molly bought two heads of cabbage for $1.80. How many heads of cabbage can Willie buy if he has $28.80?

$$\frac{2}{\$1.80} = \frac{x}{\$28.80}$$

$$57.6 = 1.80x$$

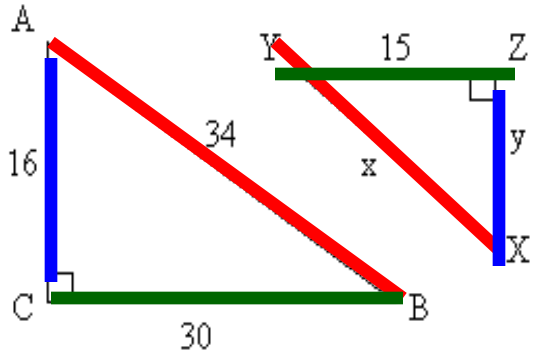
$$\frac{57.6}{1.80} = \frac{1.80x}{1.80}$$

$$32 = x$$

Ch. 8

Use indirect measurement to find the missing sides. Set up a proportion for each.

1. $\Delta ABC \sim \Delta XYZ$



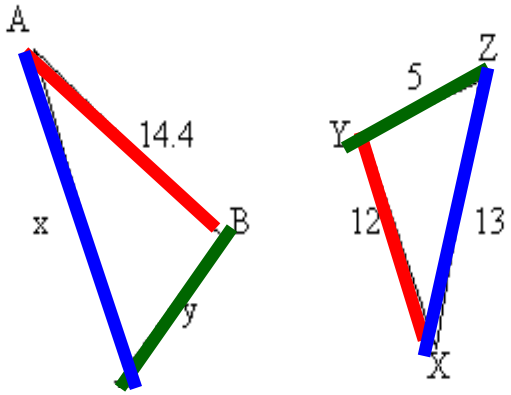
$\frac{30}{15} = \frac{16}{y}$ $\frac{30}{15} = \frac{34}{x}$

$240 = 30y$ $510 = 30x$

$\frac{240}{30} = \frac{30y}{30}$ $\frac{510}{30} = \frac{30x}{30}$

$8 = y$ $17 = x$

2. $\Delta ABC \sim \Delta XYZ$



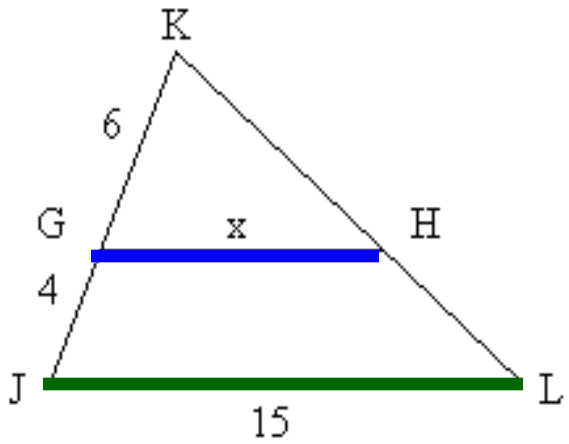
$\frac{6}{5} = \frac{X}{13}$ $\frac{y}{5} = \frac{14.4}{12}$

$5x = 78$ $72 = 12y$

$\frac{5x}{5} = \frac{78}{5}$ $\frac{72}{12} = \frac{12y}{12}$

$15.6 = x$ $6 = y$

3. $\Delta JKL \sim \Delta GKH$



$$\frac{\text{Big Triangle}}{\text{Little Triangle}} \quad \frac{15}{x} = \frac{10}{6}$$

$$90 = 10x$$

$$\frac{90}{10} = \frac{10x}{10}$$

$$9 = x$$

Set up proportions to solve each problem.

4. A giraffe is 18 feet tall and casts a shadow of 12 feet. Corry casts a shadow of 4 feet. How tall is Corry?

18ft

12ft

x

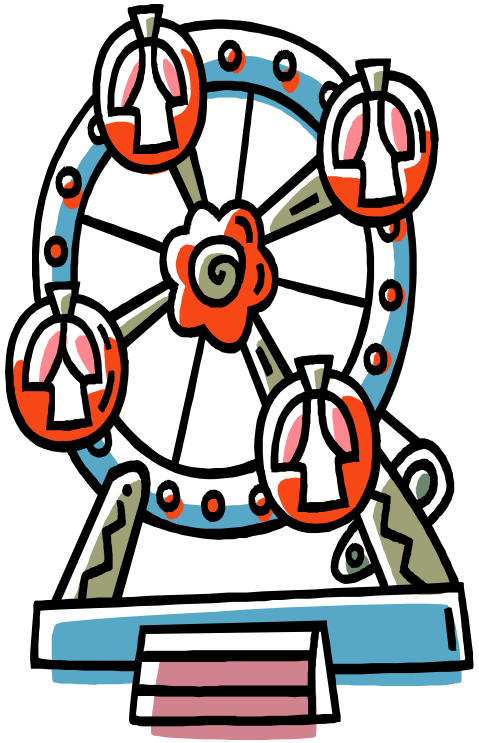
4ft

$$\frac{18}{x} = \frac{12}{4}$$

$$72 = 12x$$

$$6 = x$$

5. When a Ferris wheel casts a 20-meter shadow, a man 1.8 meters tall casts a 2.4-meter shadow. How tall is the Ferris wheel?



x

20

1.8

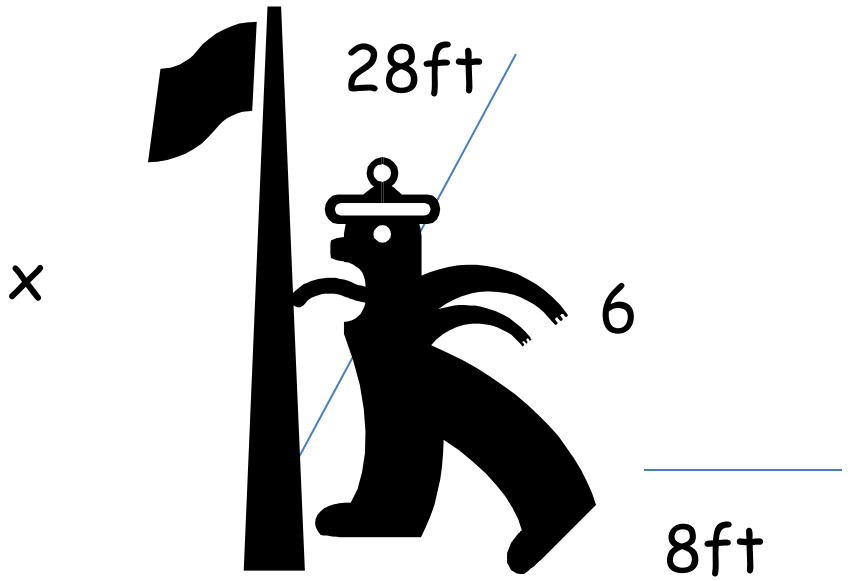
2.4

$$\frac{x}{1.8} = \frac{20}{2.4}$$

$$2.4x = 36$$

$$x = 15$$

6. A flagpole casts a shadow 28 feet long. A person standing nearby casts a shadow eight feet long. If the person is six feet tall, how tall is the flagpole?



$$\frac{x}{6} = \frac{28}{8}$$

$$168 = 8x$$

$$21 = x$$

Identify the scale factor.

1.

	Bear	Stuffed Animal
Height (in.)	62	15.5

2.

	House	Dollhouse
Height (ft)	32.4	2.7

model / Actual

$\frac{15.5}{62}$

$\frac{1}{4}$

model / Actual

$\frac{2.7}{32.4}$

$\frac{1}{12}$

3.

	Airplane	Model
Length (ft)	25.5	1.5

model / Actual

$\frac{25.5}{1.5}$

$\frac{1}{17}$

4.

	Alligator	Toy Alligator
Length (in.)	128.1	6.1

model / Actual

$\frac{128.1}{6.1}$

$\frac{1}{21}$

Set up a proportion to solve.

On a map, the distance between Dallas and Houston is 6 inches. What is the actual distance between the cities if the map scale is 1 in = 40 kilometers.

$$\frac{1 \text{ in}}{40 \text{ km}} = \frac{6 \text{ in}}{x}$$

$$240 = x$$

A line on a blueprint measures 12 inches long with a ruler. The scale factor of the blue print is 1/4 inch = 1 ft. What is the measurement of the wall for the actual building?

$$\frac{\frac{1}{4} \text{ in}}{1 \text{ ft}} = \frac{12 \text{ in}}{x}$$

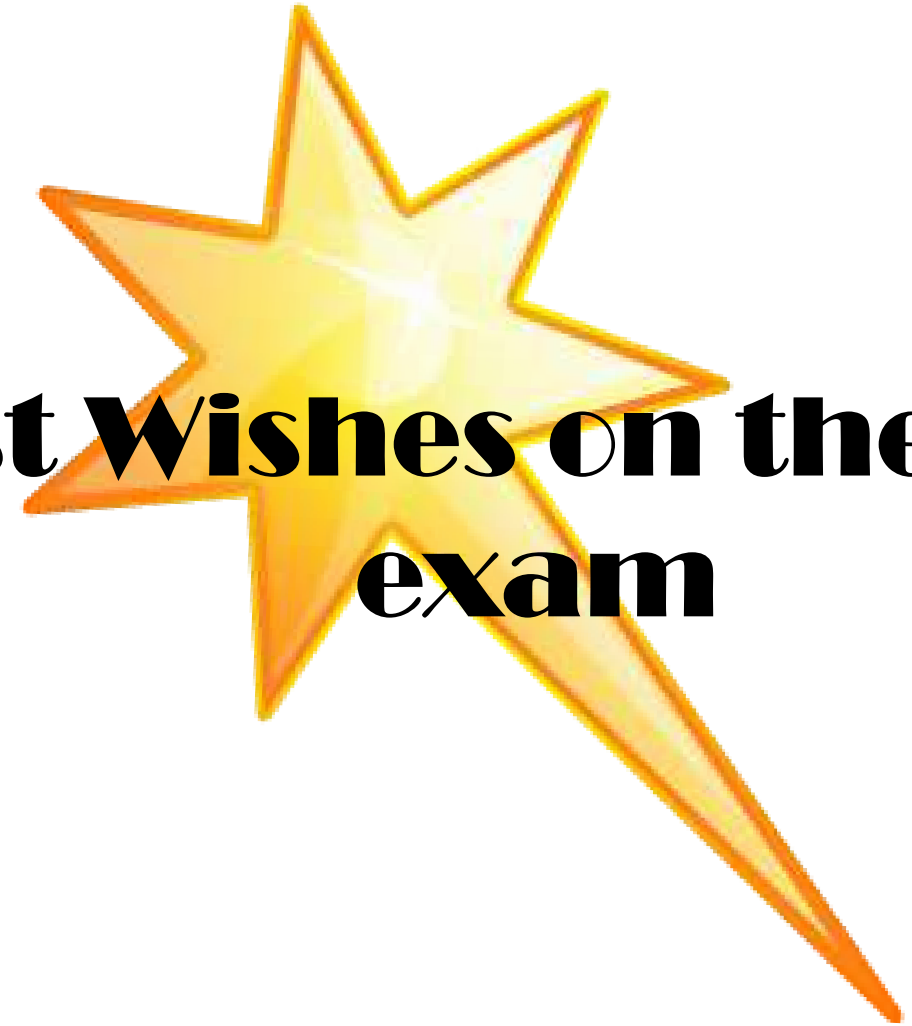
$$48 = x$$

Ths scale factor on a toy train is 1/64, which means that 1 in on the toy is equal to 64 inches on the train. If the train's wheel measures 45 feet, what will it measure on the toy car?

$$45 \text{ (x 12)} = 540 \text{ in}$$

$$\frac{1 \text{ in}}{64 \text{ in}} = \frac{x}{540 \text{ in}}$$

$$8.44 = x$$



Best Wishes on the final exam