Get out your homework and start checking your answers. TEST TOMORROW

Classwork - Test Review Day 2

1) It costs $49 for 8 people to go to the movies. How much does it cost for one person (unit rate)? SHOW WORK

$$\frac{\$49}{8\ people} = 6.125 \qquad \$6.13/person$$

2) Gerbes is selling macaroni and cheese at 5 boxes for $4. Schnuck's has it on sale $6.56 for 8 boxes. HyVee sells if 3 boxes for $2.37. **Find the unit rate for all three stores** and decide where is the best place to get the cheaper box of Macaroni and cheese?

$$\frac{\$4}{5\ boxes} = \frac{\$0.80}{1\ box} \qquad \frac{\$6.56}{8\ boxes} = \frac{\$0.82}{1\ box} \qquad \frac{\$2.37}{3\ boxes} = \frac{\$0.79}{1\ box}$$

Best Buy

3) The ratio of cats to dogs in a pet store is 4 to 6.

A) If there are 14 cats in the store, how many dogs are in the store?

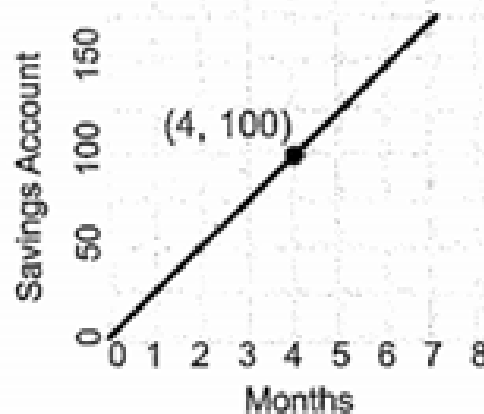$$\frac{4\ cats}{6\ dogs} = \frac{14\ cats}{x\ dogs}$$

$$x = 21\ dogs$$

B) What percentage of the pets in the store are dogs?

$$Total = 14 + 21 = 35$$

$$\frac{21}{35} = \frac{x}{100} \qquad x = 60\%$$

4) The graph to the right shows how much money is in Becky's savings account over the past 8 months.

Becky's Savings

A) What does the point (4, 100) represent in the situation?

After 4 months Brady saves $100

B) Is the data shown proportional? (Make a table)

Yes

months	Savings
1	25
2	50
3	75

All ratios are equivalent to $\frac{25}{1}$

C) If proportional, what is the constant of proportionality?

$25/month

D) How much would she save after 10 months?

25·10 = $250

E) Is she saving money at a constant rate? Explain.

Yes, he saves $25 every month

5) Determine if the table to the right displays a proportional relationship. If the data is proportional, find the constant of proportionality.
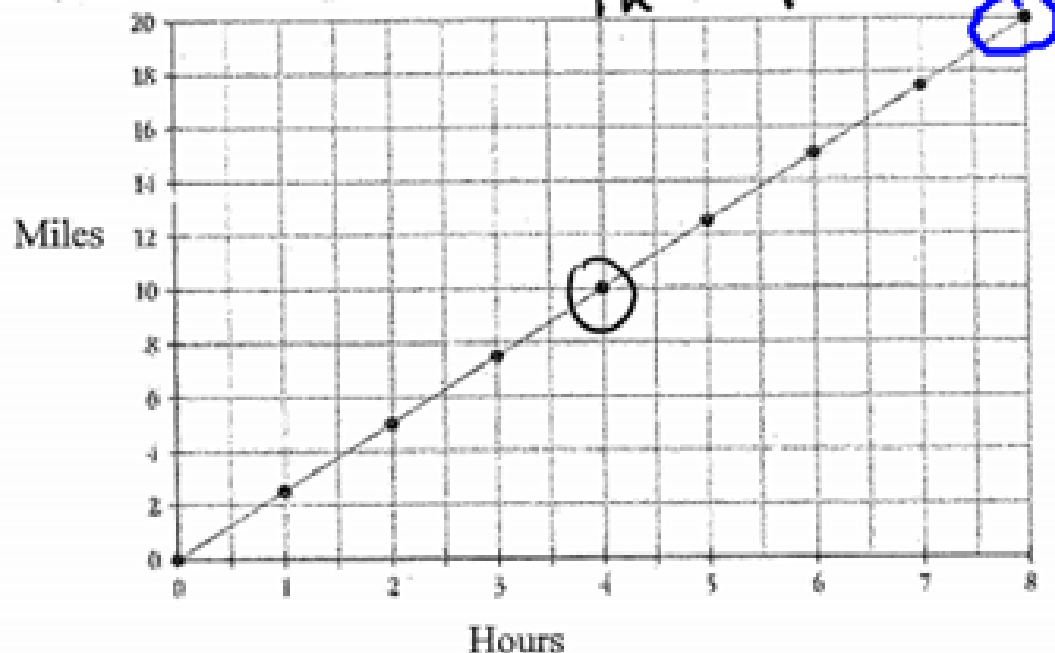
Time (weeks)	Distance (miles)
2	130
4	280
8	480
16	1056

$\frac{130}{2} = 65$ $\frac{280}{4} = 70$

No

6) Each of the following situations represent a proportional relationship. For each situation, determine the constant of proportionality.

A) Constant of Proportionality = $\dfrac{2.5\,mi}{1\,h}$ $\dfrac{10}{4} = 2.5$

B) Constant of Proportionality = $6\,mi/h$

Miles vs Hours graph

Time (hours)	Distance (miles)
3	18
4	24
6	36
10	60

$\dfrac{18}{3} = 6$

$\dfrac{24}{4} = 6$

$\dfrac{36}{6} = 6$

$\dfrac{60}{10} = 6$

C) What does the point (4, 10) represent in the graph shown above in #6A?

4 hours 10 miles

1) Barry is going JC Penney and buys $46.92. He has a coupon for his purchase that he gives the cashier.

A) The new price of the clothes is $39.88 after the discount. What percent discount did the coupon give him? SHOW WORK

$$\frac{7.04}{46.92} = \frac{x}{100}$$

$46.92 - $39.88

Discount = $7.04

$x = 15\%$ discount

B) Barry must pay a 7.95% tax on the clothes he buys. What will be his total cost for the clothes after tax?

$$\frac{x \text{ takes}}{39.88} = \frac{7.95}{100}$$

$x = 3.17

$3.17 + $39.88 = $43.05

2) Look at the proportion below and make up a word problem in which you would set this proportion up to solve for the missing number.

$$\frac{\$x \text{ tip}}{\$48.35} = \frac{22\% \text{ tip}}{100\%}$$

Word problem:

Solve you word problem you made.

3) Josh is driving 306 miles is four hours. If drives the same speed, how many miles can he drive in 7 hours?

$$\frac{306mi}{4h} = \frac{x}{7h}$$

$$4x = 2142$$
$$\div 4$$

$$X = 535.5 \text{ miles}$$

4) On a map scale, 2 inch represents 150 miles. If you measure the distance from Flagstaff, AZ and Columbia, MO on the map, it is 16 inches. How many miles would this represent?

$$\frac{2in}{150mi} = \frac{16in}{X}$$

$$\frac{2x = 2400}{2}$$

$$X = 1200 \text{ miles}$$

5) Aidan owns a grocery store and is buying food and drinks to sell to his customers. Suppose he buys a box of Cinnamon Toast Crunch for $2.29 from the manufacturer.

A) Before he sells it to the customer, he marks up the price 30%. What cost will customers pay for the box of cereal when they check out at the register? SHOW WORK.

$$\frac{x}{2.29} = \frac{30}{100}$$

$$x = 0.687$$

$$\text{Markup} = \$0.69$$

$$0.69 + 2.29$$

$$= \$2.98$$

B) If a customer buys a box of Cinnamon Toast Crunch, how much will they pay if the sales tax rate is 8.15%? SHOW WORK

$$\frac{x \; \text{taxes}}{2.98} = \frac{8.15}{100}$$

$$x = \$0.24$$

$$\$0.24 + \$2.98 = \$3.22$$

6) Kellen runs 120 feet in 30 seconds. If he keeps running at this speed, how many feet can he run in $1\frac{1}{2}$ minutes?

$$\frac{120 \text{ ft}}{30 \text{ s}} = \frac{x}{90 \text{ s}}$$

$$1\frac{1}{2} \cdot 60 = 90 \text{ s}$$

$$\boxed{x = 360 \text{ ft}}$$

7) The ratio of black to blue pens in Mark's bag is 2:3. If his bag has a total of 30 black and blue pens, how many blue pens does he have? (hint: In the 2:3 ratio, how many total pens are in one group?)

$$\frac{\text{blue pens}}{\text{total pens}} \rightarrow \frac{3 \text{ blue}}{5 \text{ total}} = \frac{x \text{ blue}}{30 \text{ total}}$$

$$\boxed{x = 18 \text{ blue pens}}$$

$$\frac{2 \text{ black}}{3 \text{ blue}}$$

8) Johnny has to drive 235 miles to get to his destination. If he has covered about 33% of the distance. How far has he driven? How many more miles does he need to drive to get to his destination?

$$\frac{x}{235 \text{ mi}} = \frac{33}{100}$$

$$\boxed{x = 77.6 \text{ miles}}$$

$$235 - 77.6$$

$$\boxed{= 157.4 \text{ miles left}}$$