RATIOS AND PROPORTIONS   NAME: _____
PRE-ALGEBRA   PERIOD: _____

1. Suppose a class has 14 redheads, 8 brunettes, and 6 blondes.

a.   What is the ratio of redheads to brunettes?

b.   What is the ratio of redheads to blondes?

c.   What is the ratio of blondes to brunettes?

d.   What is ratio of blondes to total students?

2. Express the following as ratios in fraction form and <u>reduce</u> (simplify).

a.   3 to 12   b.   25 to 5

c.   6 to 30   d.   100 to 10

ANSWERS
1a. _____
1b. _____
1c. _____
1d. _____
2a. _____
2b. _____
2c. _____
2d. _____
3a. _____
3b. _____

3. Write the <u>unit rate</u> for each situation.
(HINT: With unit rates and unit prices, the denominator in the ratio must be 1).

a. earn $92 in 8 hours.   b. $100 for 5 books

4. Find each <u>unit price</u>. Then determine which is the better buy. Show work.

a. Which is the better buy –

10 pencils for $1.10   or   30 pencils for $3.15?

b. Which is the better buy –

$50 for 10 comic books   or $202.50 for 45 comic books?

ANSWERS
4a. _____
4b. _____
5a. _____
5b. _____
5c. _____
6a. _____
6b. _____

5. Solve each <u>proportion</u>.

a. $\dfrac{3}{x} = \dfrac{2}{8}$ b $\dfrac{2}{5} = \dfrac{x}{45}$ c. $\dfrac{3}{4} = \dfrac{21}{b}$

6. <u>Use a proportion</u> to find each missing number.

a. 175 days = _____ weeks   b. 1440 minutes = _____ hours

7. For the following problems, <u>set up a proportion</u> and solve.

a. At the Copy Shoppe, 18 copies cost $1.08. At this rate, how much will 40 copies cost?

b. Three posters cost $9.60. At this rate, how many posters could you buy for $48?

ANSWERS
7a. _____
7b. _____
7c. _____
7d. _____
7e. _____

c. A microchip inspector found three defective chips in a batch containing 750 chips. At that rate, how many defective chips would there be in 10,000 chips.

d. You can do 12 math problems in 45 minutes. At this rate, how long will it take you to do 20 math problems.

e. A baseball team scores 4 runs in the first three innings of a 9-inning baseball game. If it continues at that rate, how many runs will it score in the game.?