

LEVEL: EMERGING

1) McHenry High School is collecting waste metal and paper for recycling. Five classes bring in the following amounts. Which two classes brought in the same ratios of bags metal to bags of paper?

Class	Number of Bags	
	Metal	Paper
Mrs. Roger's	4	6
Mr. Wilm	7	3
Mr. Hokinson	2	3
Mrs. Lukas	3	2
Mr. Mauck	4	3

SIMPLIFYING RATIOS: Directions: Tell whether the ratio is in simplest form. If not, write it in simplest form.

2) 14 to 18

Simplified? _____

3) 5:13

Simplified? _____

4)

$$\frac{24}{25}$$

Simplified? _____

5) 28 to 32

Simplified? _____

WRITING RATIOS: Directions: Write the ratio indicated in each problem.

6) A candy dish contains p peppermints, s spearmints, and b butterscotch candies. Write an expression for the ratio of spearmints to total number of candies.

7) A soccer team played 32 games, won 20, and tied none. Find the ratio and simplify:

a) games won to games lost

b) games won to total number of games

8) A secretary types a 500-word document in 12 minutes. How many words per minute can he type?

SOLVING PROPORTIONS: Directions: Solve the proportion. Check your solution

9) $\frac{2}{5} = \frac{x}{3}$

10) $\frac{5}{8} = \frac{t}{24}$

11) $\frac{d}{5} = \frac{80}{100}$

12) $\frac{16}{48} = \frac{n}{36}$

13) $\frac{16}{7} = \frac{m}{21}$

14) $\frac{r}{60} = \frac{40}{50}$

Answers:

1) Mrs. Roger's and Mr. Hokinson's

2) no; 7 to 9

3) yes

4) yes

5) no; 7 to 8

6) $s : (p + s + b)$; $\frac{s}{p+s+b}$, s to $(p + s + b)$

7a) $\frac{20}{32}$; simplified = $\frac{5}{8}$

7b) $\frac{20}{32}$; simplified = $\frac{5}{8}$

8) $\frac{41.5 \text{ words}}{1 \text{ minute}}$

9) $x = \frac{6}{5}$

10) $t = 15$

11) $d = 4$

12) $t = 12$

13) $m = 48$

14) $r = 48$

LEVEL: PROFICIENT

SOLVING PROPORTIONS: Directions: Solve the proportion. Check your solution

$$15) \frac{b}{0.5} = \frac{9}{2.5}$$

$$16) \frac{1.1}{1.2} = \frac{n}{3.6}$$

$$17) \frac{2.1}{7.7} = \frac{v}{8.8}$$

$$18) \frac{3a+1}{4} = \frac{36}{12}$$

$$19) \frac{10h-3}{108} = \frac{5}{9}$$

$$20) \frac{12}{42} = \frac{-4w-1}{56}$$

LEVEL: MASTERY

SOLVING PROPORTIONS: Directions: Solve the proportion. Check your solution

$$21) \frac{m+3}{8m} = \frac{40}{64}$$

$$22) \frac{5k}{13} = \frac{-k-4}{39}$$

$$23) \frac{7}{112} = \frac{c-3}{8c}$$

24) Is it possible to write a proportion using the numbers 3, 4, 6, and 8? *Explain* your reasoning.

25) A builder uses 20 bricks to cover 3 square feet of wall. How many square feet can be covered with 2,090 bricks?



Answers:

15) $b = 1.8$

16) $n = 3.3$

17) $v = 2.4$

18) $a = \frac{11}{3}$

19) $h = 6.3$

20) $w = -4.25$

21) $m = .75$

22) $k = -.25$

23) $c = 6$

24) yes: Sample Proportion: $\frac{3}{6} = \frac{4}{8}$

25) $\frac{20 \text{ bricks}}{3 \text{ sq ft}} = \frac{2090 \text{ bricks}}{x \text{ sq ft}}$; 2,090 bricks will cover 313.5 square feet.