HW 4.1

March 8, 2015   2:51 PM

Name:_____   Section 4.1 Rates and Ratios   Date:_____

1. Given the following images, find the ratios of the following. Write in lowest terms:

a) 😊 : ❤️ 8 : 10 (4:5)	b) 😊 : ⭐ 8 : 6 (4 : 3)	c) ⭐ : 😊❤️ 6 : 18 (1 : 3)
d) What comparisons will have a ratio of 7:5? 😊⭐ : ♡ ✓ 14 : 10	e) What comparisons will have a ratio of 1:2? 😊 : ♡⭐ 8 : 16	f) What comparisons will have a ratio of 1:4? ⭐ : ⭐😊❤️ 6 : 24

2. Find the missing value in each proportion. Please show all your work and steps:

a) $\dfrac{3}{5} = \dfrac{12}{20}$ ×4	b) $\dfrac{9}{15} = \dfrac{3}{\square}$ $45 = 9 \times (5)$ $\dfrac{45}{9} = 5$ $5 = 5$	c) $\dfrac{T}{40} = \dfrac{3}{10}$ ×4 $\dfrac{T}{40} = \dfrac{3}{10}$ $10 \times T = 120$ $T = 12$
d) 8:4 = 40 : ☐	e) ☐ : 42 = 12 : 6 $\dfrac{\square}{42} = \dfrac{12}{6}$ ×7 $\square = 7 \times 12 = 84$	f) 14 : ☐ = 70: 65 $\dfrac{14}{\square} = \dfrac{70}{65}$ ÷5 $\square = 13$
g) $\dfrac{12}{18} = \dfrac{\square}{3}$	h) $\dfrac{9}{4} = \dfrac{27}{\square}$	i) $\dfrac{48}{\square} = \dfrac{3}{6}$
j) $\dfrac{24}{\square} = \dfrac{3}{7}$	k) $\dfrac{45}{6} = \dfrac{\square}{15}$ $\square = 45 \times \dfrac{15}{6}$ $\square = \dfrac{225}{2}$ $\square = 112.5$	L) $\dfrac{18}{12} = \dfrac{4}{\square}$ $\square = 12 \times \dfrac{4}{18}$ $\square = \dfrac{8}{3}$ ≈ 2.6

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3. John makes $7.25 per hour at work. If he works 17 hours a week, how much will he earn?

$$\$ \text{ EARN} = 7.25 \times 17$$
$$= \$123.25$$

4. A class has 24 boys and 32 girls, what is the ratio of boys to girls? What is the ratio of boys to girls to the number of students in the class?

B : G
24 : 32
3 : 4

5. The ratio of dog owners to cat owners is 4:3. If 320 people in a city own dogs, how many people own cats?

DOG   CAT
×80 (4 : 3) ×80
320 : 240

6. At the Winter Olympics, the ratio of Canadian medals to US to Russia was 1:8:5. If Russia won 25 medals, how many did Canada and US won?

7. The ratio of the length to the width of the Canadian Flag is 2:1. What is the width of a 75cm long Canadian flag?

8. What is the difference between rates and ratios? Explain using your own words:

RATES: COMPARING 2 QUANTITIES WITH DIFFERENT UNITS
RATIO   "   "   "   "   SAME   "

9. There are 45 marbles in a bag (black and white only). The ratio of white marbles to black marbles is 2:3. How many of each are there?

×9
2 W = 18 WHITE
3 B
27 BLACK
×9

W   B
○○ ●●● 5
○○ ●●●

2 = 8
1 = 4

10. The ratio of boys to girls in a party is 6:5. Then 8 boys leave the party and the ratio of boys to girls is now 4:5. How many boys and girls are there now?

B : G
6 . 5 ←
12 : 10 ←
18 : 15 ←
24 : 20 ←
30 : 25 ←

B : G
4 : 10   2 : 5
10 : 15   2 : 3
16 : 20 → 4 : 5

B   G   B   G
6 : 5 → 4 : 5   2 BOYS
6 : 5 → 4 : 5   2 BOYS
6 : 5 → 4 : 5
6 : 5 → 4 : 5
                    2