6th Grade (Conceptual) Unit 4, Quiz #1 Name Key

Answer completely and show all work

Austin has been tasked with having to plan the next book fair. The fair spans over three days and is open for seven hours a day.

1. They have agreed to pay him either $210 for the entire fair or $11 for each hour he puts in. Which is the better deal for Austin? Use unit rates to explain your decision.

$\frac{\$11}{hr} \times 7hr = \$77/day \times 3 days = \$231 > \$210$ Go for $11/hr

$\$210/3 days = \$70/day$ or $\$10/hr$

2. The books are placed into two different sections: fiction and non-fiction books in the ratio of 5:3. How many of each type of book is there if there is a total of 360 books?

F:N $5x:3x = 8x = 360$ $x = 45$ $45 \times 3 = 135$ $\frac{360}{8} = 45$

$45 \times 5 = 225$ Fiction, 135 Non-fiction

3. Austin gets his friend Amber to help him make up some decorations. Each bouquet has red and yellow flowers. For every red flower, there are four yellow flowers.

a. Write the ratio of red to yellow flowers in three different ways.

1:4, 1 to 4, $\frac{1}{4}$

b. If one of the bouquets hold 15 flowers, how many yellow flowers will there be?

$\frac{1}{4} = \frac{3}{12}$ $\times 3$ 12 yellow

c. Another type of bouquet has 20 yellow flowers. How many red flowers will there be in this bouquet?

$\frac{1}{4} = \frac{5}{20}$ 5 red

d. Rohan joins in to help out, but he immediately makes a bouquet with six red flowers and fifteen yellow flowers. This will just not work for the overall decor of the fair. How can you add to the bouquet to make Rohan's bouquet be in the same proportion as the others?

$\frac{6r}{15y} + \frac{1}{4} =$ add 9 yellow flowers so $\frac{6r}{24y} = \frac{1}{4}$

4. Austin was given some extra money to compensate his friends for the work they put in to help out. He was given a total of $100 and he thought they should split it in a ratio of 3:2, Amber to Rohan. How much money will Amber make for helping out?

$\frac{100}{5} = 20$

$20 \times 3 =$ $60

6th Grade(Procedural) Unit 4, Quiz #1 Name Key

Answer completely and show all of your work.

1. Write a ratio for each situation.
   a. The Dodgers scored 18 runs in the span of 4 games.
   18 : 4 or 9 : 2
   $\frac{18 \text{ runs}}{4 \text{ games}}$ or $\frac{9 \text{ runs}}{2 \text{ games}}$ or 4.5 runs/game
   all ok
   b. Jason earned $450.00 for five days of work.
   $\frac{\$450}{5 \text{ days}} = \$90/\text{day}$
   c. Mom planned to have 30 slices of pizza for the 8 kids attending the party.
   $\frac{30 \text{ slices}}{8 \text{ kids}} = \frac{15 \text{ slices}}{4 \text{ kids}}$ or 3.75 slices/kid

2. The candy company claims that they fill their M&Ms with the following proportions of colors.

Color	Amount
Yellow	15
Red	14
Blue	12
Green	16
Brown	13

   a. Which colors form a ratio of 4:5? Blue : Yellow
   b. If there were 140 pieces, how many would be red?
   ×2 28
   c. If you grab a handful and have 3 blue M&Ms, how many greens would you expect to have?
   3 blue ÷ 4 so 16 ÷ 4 =
   4 greens

3. Complete the ratio table to show ratios equivalent to 12:42. ÷2 : 7

24	2	6	4	18
84	7	21	14	63

   ×2 ×7
   $\frac{2}{7} = \frac{18}{x}$ 7×

4. If a beetle can move at a rate of 6 inches per second, what is its rate in feet per minute?
   $\frac{6 \text{ in}}{\text{sec}} \cdot \frac{60 \text{ sec}}{\text{min}} \cdot \frac{\text{ft}}{12 \text{ in}} = 30 \text{ ft/min}$

5. Your dad buys a steak at $13.50 per pound. How much will it cost for 5 pound of steak?
   13.50×5
   67.50
   $67.50

6. Solve the proportion.
   a. $\frac{\$16}{5in} = \frac{\$40}{a}$
   $\frac{16a}{16} = \frac{200}{16} = \frac{50}{4} = \frac{25}{2}$
   $a = 12.5$ in
   b. $\frac{72 beats}{20 sec} = \frac{b}{120 sec}$
   ×6
   72 × 6 = 432 beats
   c. $\frac{\$250}{6hr} = \frac{\$75}{c}$
   $\frac{210}{6} = \frac{75}{c}$ or $\frac{250}{77} = \frac{6}{c}$
   $\frac{10}{3} = \frac{6}{c}$
   $c = 1.8$ hr