Name: KEY Block: _____

Accelerated 6th Grade Math - Assessment 6 Review Guide

6.RP.1 Ratios (NO CALCULATOR)

1. The following fruits are used in a recipe for a fruit salad:

8 oranges	4 strawberries
2 bananas	6 apples

a) Compare the number of apples to oranges using a ratio.

6 : 8

b) Compare the number of strawberries to apples using a ratio.

4 : 6

c) Compare the number of bananas to total pieces of fruit using a ratio.

2 : 20

2. The ratio of cats to dogs is 8:9. Which of the following ratios are equivalent?

(a) 16 cats to 18 dogs ~~(b)~~ 9 cats to 8 dogs ~~(c)~~ 4 cats to 5 dogs

~~(d)~~ 7 cats to 8 dogs (e) 24 cats to 27 dogs (f) 72 cats to 81 dogs

6.RP.2 Unit Rates (NO CALCULATOR)

3. Grapes are for sale at Walmart. You can buy 4 pounds for $8.00.

a) What is the rate per pound? $2.00 per pound

b) What is the rate per dollar? 0.5 lbs. per dollar

c) If Kim buys grapes for $24, how much did the grapes weigh in pounds? 12 lbs.

$\frac{\$8}{4\text{ lbs}} \times 3 = \frac{\$24}{? \text{ lbs.}}$ (×3)

d) If Jamal wants to buy 30 pounds of grapes, how much money will he need? $60

$\frac{\$8}{4\text{ lbs}} \times 7.5 = \frac{\$?}{30\text{ lbs}}$ (×7.5)

4. Maggie is shopping for a new car and sees that there are 35 gas-powered cars and 28 electric cars. Represent the number of gas-powered cars to electric cars as a unit rate. Use words, symbols, or a diagram to show what you know about unit rate in this problem.

35 : 28

$\frac{35\text{ GPC}}{28\text{ EPC}} \div 28 = \frac{1.25\text{ GPC}}{1\text{ EPC}}$

There will be 1.25 gas powered cars per electric car.

6.RP.3a Ratio Tables and Graphs (CALCULATORS PERMITTED)

5. The ratio in a cup of lemonade of powder to water is 1:4.
   a. Create a ratio table to represent the relationship between the ingredients.

powder	1	2	3	4	5	6	7
water	4	8	12	16	20	24	28
total:	5	10	15	20	25	30	35

   b. If Sammy makes 35 total cups of lemonade, how many scoops of powder will she need? How many ~~scoops~~ cups of water will she need?

7 cups of powder & 28 cups of water

6. Brian and Marie are trying to figure out who drives the fastest. Brian's car traveled 120 miles in 4 hours. Marie's car traveled 90 miles in 2 hours. Who has the faster rate? Justify your answer.

Brian's Rate: $\frac{120\text{mi}}{4\text{ hrs.}} \times 4 = \frac{30\text{mi}}{1\text{ hr}}$ $\div 4$

Marie's Rate: $\frac{90\text{mi}}{2\text{ hrs.}} \div 2 = \frac{45\text{ mi.}}{1\text{hr.}}$ $\div 2$

Who has the fastest rate? Justify your answer.

Marie, because 45 mph > 30 mph.

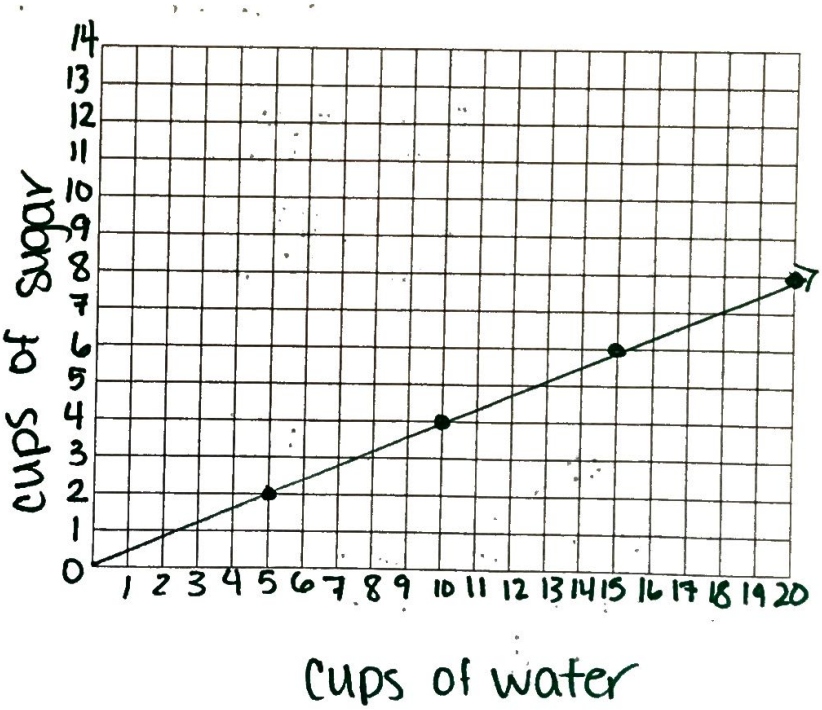
7. What is the better price: 4 sneakers for $24.60 or 3 sneakers for $19.50? Justify your answer using unit rates.

$\frac{\$24.60}{4\text{ sn.}} \div 4 = \frac{\$6.15}{1\text{ sn.}}$ $\quad$ $\frac{\$19.50}{3\text{ sn}} \div 3 = \frac{\$6.50}{1\text{ sn.}}$

4 sneakers for $24.60, because $6.15 < $6.50

8. A recipe states that for every 5 cups of water, mix in 2 cups of sugar. Complete the ratio table for this recipe. Then, plot the points on the coordinate grid. Be sure to number and label your x-axis and y-axis!

Cups of Water	Cups of Sugar
5	2
10	4
15	6
20	8



6.RP.3b Solve problems using the unit rate (CALCULATORS PERMITTED)

9. If it takes Tommy 10 hours to clean 4 gutters, at what rate were the gutters being cleaned per hour?

$\frac{10 \text{ hrs}}{4 \text{ g.}} \div 10 = \frac{1 \text{ hr.}}{?}$ ÷10

0.4 gutters per hour

10. If Mrs. Galan purchases 6 tickets for $129, what is the cost for 8 tickets?

$\frac{\$129}{6 \text{ t.}} \div 6 = \frac{?}{1 \text{ t.}}$ ÷6 $\$21.50$

$\frac{\$21.50}{1 \text{ t}} \times 8 = \frac{?}{8 \text{ t}}$ ×8

$172

11. A 16-oz. package of pasta costs $3.59.

a) Find the unit rate per ounce. $\frac{\$3.59}{16 \text{ oz}} \div 16 = \frac{?}{1 \text{ oz}}$ ÷16

$0.22 per oz.

b) At the same rate, what is the cost of a 25-oz. package of the same pasta?

$0.22 per oz × 25 oz = **$5.50**

6.RP.3d Convert metric and customary units (CALCULATORS PERMITTED)

12. How many centimeters are in 5 feet?

$5 \text{ ft} \times \frac{12 \text{ in}}{1 \text{ ft}} = 60 \text{ inches}$

$60 \text{ in} \times \frac{2.54 \text{ cm}}{1 \text{ in}} =$ **152.4 cm**

13. After a 3 hour storm, a leak upstairs in my house filled up 16 quart-sized buckets. The leak downstairs filled up 5 gallon-sized cartons. Which one is leaking more water? How do you know?

Upstairs: 16 qts.

Downstairs: 5 gals. → $5 \text{ gal} \times \frac{4 \text{ qts}}{1 \text{ gal}} = 20 \text{ qts}$

Downstairs, because 20 qts > 16 qts.

14. Ellis and Jackson drive 20 miles on a road trip. How far is this distance in kilometers?

$20 \text{ mi.} \times \frac{1.609 \text{ km}}{1 \text{ mi}} =$ **32.18 km**

15. How many inches are in 3 miles (given that 1 m = 5,280 feet)? Explain how you found your answer using words, numbers, and/or symbols.

$3 \text{ mi} \times \frac{5280 \text{ ft}}{1 \text{ mi}} = 15{,}840 \text{ ft}$

$15{,}840 \text{ ft} \times \frac{12 \text{ in}}{1 \text{ ft}} =$ **190,080 in**

16. Ferb weighs 45 kilograms. What is his weight in pounds?

$45 \text{ kg} \times \frac{2.2 \text{ lbs}}{1 \text{ kg}} =$ **99 lbs**

17. Carol wants to make a blanket pattern that measures 120 centimeters wide by 3.5 feet long. She finds a fabric that she wants to use, but it lists its measurements in inches.

a) How many inches does she need for the width?

$120 \text{ cm} \times \frac{1 \text{ in}}{2.54 \text{ cm}} = 47.2 \text{ in}$

b) How many inches does she need for the length?

$3.5 \text{ ft} \times \frac{12 \text{ in}}{1 \text{ ft}} = 42 \text{ in.}$

18. How many pints are in 5.2 ounces?

$5.2 \text{ oz} \times \frac{1 \text{ cup}}{8 \text{ oz}} = 0.65 \text{ cup}$

$0.65 \text{ cups} \times \frac{1 \text{ pt}}{2 \text{ cups}} = 0.325 \text{ pts}$

19. How many ounces are in 42 cups?

$42 \text{ cups} \times \frac{8 \text{ oz}}{1 \text{ cup}} = 336 \text{ oz}$

20. Charlie and Bella are in a race. In 15 minutes, Charlie has run 2 kilometers and Bella has run 1.5 miles. Who has run father? How do you know?

Charlie = 2 km $\longrightarrow$ $2 \text{ km} \times \frac{0.62 \text{ mi}}{1 \text{ km}} = 1.24 \text{ mi}$

Bella = 1.5 miles

Bella, because $1.5 \text{ mi} > 1.24 \text{ mi}$

21. How many meters are in 260 inches?

$260 \text{ in} \times \frac{1 \text{ m}}{39.37 \text{ in}} = 6.6 \text{ m}$

22. Phineas weighs 94 pounds. What is his weight in kilograms?

$94 \text{ lbs} \times \frac{0.454 \text{ kg}}{1 \text{ lb}} = 42.676 \text{ kg}$

23. Sponge Bob weighs 8 pounds. What is his weight in kilograms?

$8 \text{ lbs} \times \frac{0.454 \text{ kg}}{1 \text{ lb}} = 3.632 \text{ kg}$

24. Patrick weighs 4 kilograms. What is his weight in pounds?

$4 \text{ kg} \times \frac{2.2 \text{ lb}}{1 \text{ kg}} = 8.8 \text{ lbs.}$