Review Sheet: Rate, Ratio and Proportion – Level One

(1-3) Simplify each ratio:

     1) 8 feet to 3 yards   2) 3 meters to 50 cm   3) 18 ounces to 2 pounds

4) The chorus consists of 100 students of which 40 are boys. What is the ratio of boys to girls in the chorus?

5) 2/3 of the ingredients in a fruit drink are water and the rest is pure juice. What is the ratio of water to juice in the fruit drink mixture?

(6-8) Solve each proportion:

6) $\dfrac{8}{x} = \dfrac{10}{x+3}$ 7) $\dfrac{x}{9} = \dfrac{4}{x}$ 8) $\dfrac{4}{7} = \dfrac{x+3}{x-6}$

9) A car traveled 330 miles in 6 hours. At this rate, how far would the car travel in 10 hours?

10) During practice, a jogger ran 21 miles in 3 hours and 30 minutes. During the race, she ran 24 miles jogging at the same average rate as in practice. How long did it take her to run the race?

11) What number must be subtracted from both the numerator and denominator of $\frac{83}{89}$ to make the fraction equal to $\frac{3}{4}$?

12) Find each unit rate ($ per oz) to determine the better buy:

     Brand A: $6.00 for 25 ounces   Brand B: $12.00 for 3 pounds

13) Two numbers are in a ratio of 5:2. Their sum is 350. Find the value of each number.

14) The scale of a map reads 3 in. = 20 miles. What is the actual distance represented by $19\frac{1}{2}$ inches on the map?

15) True of False? $\dfrac{6}{15} = \dfrac{26}{65}$

16) 8 out of every 30 people on a field trip are adults. If there are 110 children on the trip, how many adults were on the trip?

17) A 32-ounce package of chopped meat costs $4.79. Find the cost per ounce. *Round to the nearest cent.*

18) A high school football player runs 40 yards in 4.5 seconds. If he were to maintain his speed, how many miles would he run in one hour? *Round to the nearest tenth*

19) After 12 minutes on a stair-stepper, Rick has burned 210 calories. At the same rate, what is the total number of calories Rick will burn in a 20-minute workout?

20) If a certain recipe requires five tablespoons of flour for every two ounces of butter, how many tablespoons of flour are needed if two pounds of butter are used?

21) $\dfrac{3}{7}$ of the people invited to the party could not attend. If 52 people were able to attend, how many people were invited?

22) The ratio of men to women at the meeting is 3:2. There are 65 people at the meeting. How many men and how many women were at the meeting?

23) The ratio of the sides of a triangle is 2:5:6. Its perimeter is 39 cm. What is the length of each side?

24) Two numbers are in a ratio of 5:3. If each of the numbers is reduced by 7, the numbers will be in a ratio of 2:1. What are the original numbers?

25) A 1.75-meter tall woman has a height of 7 cm in a photograph. Her son is 5 cm tall in the photograph. What is his actual height?

26) On a map, 3/8 of an inch represents 240 miles. What is the actual distance represented by $3\dfrac{1}{2}$ inches?

27) A train leaves Boston at 8:00 am and travels the 216 miles to New York at a speed of 90 mph. At what time in the morning does the train arrive in New York?

28) At 7:00 am, a moving truck began transporting the contents of a house to their new home at an average speed of 50 mph. At 10:00 am, the family followed in their car at an average

speed of 75 miles per hour. Both stopped one hour for lunch and arrived at the new house at the same time. What time did they arrive?

29) A women driving her family home from their vacation house traveled 600 miles the first day. By increasing her average speed 10 miles per hour, she was able to drive 720 miles the second day in the same amount of time. What was her average speed the first day?

30) The triangles are similar. Solve for x.
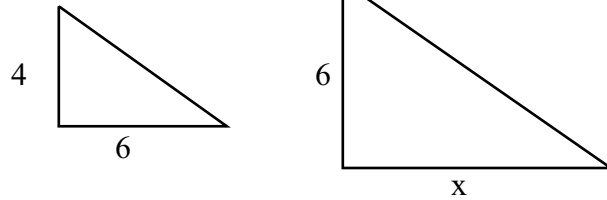
31) How many pounds of seeds worth 60 cents per pound must be mixed with 300 pounds of seed worth 35 cents per pound to produce a mixture worth 50 cents per pound?

32) A dealer wishes to produce 300 gallons of oil worth 1.30 per quart by mixing oil worth $1.08 per quart with oil worth $1.56 per quart. How many quarts of each kind of oil should he use?

33) How many pounds of nuts worth $3.50 per pound should be mixed with 12 pounds of nuts worth $2.50 per pounds to produce a mixture that should be priced at $3.25 per pound?