Module Test **B**   Module 7

Write each ratio as a percent.

1. $\dfrac{16}{5}$

320%

2. $5:2$

250%

3. 7 to 500

1.4%

Answer each of the following.

4. 85% of what number is 34?

40

5. What is 800% of 7?

56

6. What percent of 200 is 170?

85%

Fill in the blanks with one of the following words:

markup   discount   simple   compound   part   whole   percent

7. A _____ is an amount added to the cost of an item.
   (markup)

8. The unknown number is the _____ when using the percent proportion to answer "60% of what number is 150?" **(whole)**

9. _____ interest is paid on principal only.
   (Simple)

10. The number 6 is the _____ when using the percent proportion to answer "What percent of 8 is 6?" **(part)**

105

Circle the correct answer for each problem.

11. Evaluate: $\sqrt{64} + 5^2 + \sqrt{16}$

    a. 22   b. 33   c. 37   d. 49

                                                                     37

12. Evaluate: $\sqrt{36} + \sqrt{81} + 5^2$

    a. 24   b. 40   c. 20   d. 25

                                            40

13. Which number is not a perfect square number?

    a. 100   b. 121   c. 25   d. 75

                                                        75

14. Which ratios are in proportion?

    a. $\dfrac{3}{18} = \dfrac{2}{9}$ b. $\dfrac{8}{6} = \dfrac{16}{12}$ c. $\dfrac{3}{4} = \dfrac{5}{6}$ d. $\dfrac{8}{9} = \dfrac{2}{3}$

                                     $\mathbf{\dfrac{8}{6} = \dfrac{16}{12}}$

15. Which is a unit rate?

    a. $\dfrac{1 \text{ girl}}{6 \text{ boys}}$ b. $\dfrac{8 \text{ pounds}}{5 \text{ boxes}}$ c. $\dfrac{20 \text{ books}}{3 \text{ shelves}}$ d. $\dfrac{4 \text{ people}}{1 \text{ car}}$

                                                               $\mathbf{\dfrac{4 \text{ people}}{1 \text{ car}}}$

16. It costs Debbie $5.50 to knit a scarf. How much will she sell her scarves for if her markup is 160%?

Each scarf will sell for $14.30.

17. Paula's waffle recipe calls for five tablespoons of sugar for every two tablespoons of salt. How many tablespoons of sugar should she use if she uses three tablespoons of salt?

Paula should use $7\frac{1}{2}$ tablespoons of sugar.

18. Larry saved $6,000 for $2\frac{3}{4}$ years at a rate of 4%. Find the amount of simple interest earned and the total amount in the account.

Interest: $660   Total amount: $6,660

19. Mr. Nunez saved $3,000 at a rate of 6.5% compounded semiannually. Find the total amount after $1\frac{1}{2}$ years.

Total Amount: $3,302.11

Answer the following questions.

20. Explain how to find the perimeter of a square if its area is 49 square feet.

Take the square root of the area to find the length of one side: $\sqrt{49} = 7$.
Multiply the length of one side by four to find the perimeter: $4 \times 7 = 28$.
The perimeter of the square is 28 feet.

21. Jack is building picture frames at a rate of seven frames every two hours. Paul is building picture frames at a rate of 10 frames every three hours. Complete the table and explain how to use it to find who builds picture frames at a faster rate. Then explain how to use unit rates to find who builds picture frames at a faster rate.

Jack		Paul	
frames	**hours**	**frames**	**hours**
7	2	10	3
14	4	<u>20</u>	<u>6</u>
<u>21</u>	<u>6</u>	30	9
28	8	40	12

The table shows that in six hours, Jack would have built 21 frames and Paul would have built 20 frames, so Jack is building at a faster rate.

Jack's unit rate of $3\frac{1}{2}$ frames per hour

is greater than Paul's unit rate of $3\frac{1}{3}$ frames per hour.