1. Which group contains ratios that are all equivalent to $\frac{3}{5}$?

   [A] $\frac{6}{10}, \frac{9}{15}, \frac{12}{20}$ [B] $\frac{4}{5}, \frac{8}{10}, \frac{12}{15}$

   [C] $\frac{4}{5}, \frac{5}{5}, \frac{6}{5}$ [D] $\frac{3}{6}, \frac{3}{7}, \frac{3}{8}$

2. Which of the following pairs of ratios does NOT form a proportion?

   [A] $\frac{2}{7}, \frac{8}{28}$ [B] $\frac{36}{30}, \frac{7}{6}$

   [C] $\frac{27}{9}, \frac{12}{4}$ [D] $\frac{52}{13}, \frac{4}{1}$

3. Find n in this proportion and give another ratio that equals $\frac{12}{13}$: $\frac{12}{13} = \frac{42}{n}$.

4. Write three equal ratios for the ratio 2 : 14.

5. The Spring Valley Flyers had a record of 45 wins and 35 losses. What was the ratio of wins to losses?

   [A] 7 to 9   [B] 4 to 5

   [C] 5 to 4   [D] 9 to 7

6. A history class consists of 11 boys and 13 girls. Find the ratio of girls to the entire class.

   [A] $\frac{11}{13}$ [B] $\frac{13}{11}$ [C] $\frac{13}{24}$ [D] $\frac{11}{24}$

7. Emma studies dance 3 days a week and practices soccer 5 days a week. Which ratio equals the number of dance days to soccer days over a 3-week period?

   [A] 9:15   [B] 12:15

   [C] 6:15   [D] 15:15

8. The scale model of a building that is actually 1,521 ft tall is 13 inches. Which of the following ratios represents the scale?

   [A] 1 in.:117 ft   [B] $1\frac{1}{2}$ in.:85 ft

   [C] 2 in.:70 ft   [D] 1 in.:119 ft

9. A map has a scale of 3 cm : 6 km. If two cities are 16 cm apart on the map, what is the actual distance between the cities, to the nearest tenth of a kilometer?

   [A] 320 km   [B] 80 km

   [C] 32 km   [D] 8 km

10. A map has a scale of 1:2,400,000. If two cities are 8 cm apart on the map, what is the actual distance between the two cities?

    [A] 192 km   [B] 0.3 km

    [C] 3 km   [D] 1920 km

11. A scale drawing of a town park has a scale of 1 inch:100 feet. What is the actual length for each 1 foot on the drawing?

[A] $\dfrac{1}{1200}$ in.   [B] 1200 ft.

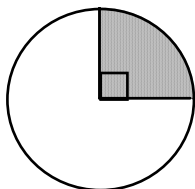[C] 1000 ft.   [D] none of these answers

12. Which of the following would be the most appropriate subject if you were drawing it at a scale of 1:1?

[A] New Jersey   [B] a bedroom

[C] a micro-organism   [D] a baseball

13. The ratio for mixing plant food, weed killer in ounces, and water to make fertilizer is 5 : 4 : 8. If 2 gallons of water are used, how much weed killer is needed?

14. A bowl contains green, red, and white marbles in the ratio 6 : 3 : 2. Based on this information, what does the ratio 5 : 11 represent?

15. A student reported that the amount of shaded area in the figure below is one-third of the circle. Is this true? What ratio did the student use to get his answer?
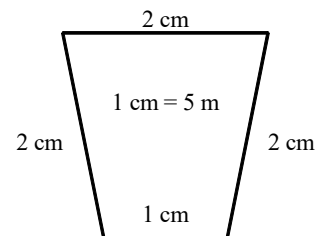

16. A scale drawing has a scale of $\dfrac{1}{2}$ in:10 km. What is the length of the drawing if the actual length is 200 km?

17. A scale drawing of a bedroom is 4 in. wide and 6 in. long. How long is the actual room if it is 10 ft wide? What is the scale factor?

18. Half Dome trail at Yosemite National Park is 26.9 km round trip. It is shown on a map with a scale of 2.5 cm = 3 km. How many centimeters long is the trail on the map?

19. Find the perimeter of the actual object using the scale factor shown on the blueprint.

20. Use any problem solving strategy to solve the following problem. Maria sketched plans for a rectangular garden on grid paper. The rectangle she drew is 2.5 squares wide and 4 squares long. If each side of each square on the grid paper represents 3.5 feet, find the length and the width of the actual garden.

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[1] A

[2] B

[3] $n = 45.5$; $\dfrac{24}{26}$

[4] Answers may include 1 : 7, 3 : 21, 4 : 28, etc.

[5] D

[6] C

[7] A

[8] A

[9] C

[10] A

[11] B

[12] D

[13] 128 ounces or 1 gallon

[14] 5 : 11 shows the number of marbles that are not green compared to the total number of marbles in the bowl.

[15] False. The ratio is one-fourth. The student compared the shaded area and nonshaded area to get one-third. He should have compared shaded area to total area.

[16] 10 in.

[17] 15 ft; 1 in. = 2.5 ft

[18] about 22.4 cm

[19] 35 m

[20] 8.75 feet wide and 14 feet long