Name _____ Class _____ Date _____

Chapter Test — Form A

Chapter 4

1. There are 14 boys and 16 girls in a class. Write the ratio of boys to girls in simplest form.

7 : 8

Determine whether the ratios in each pair are proportional. If so, find the constant of proportionality.

2. 1 : 10; 2 : 5

no

3. 4 to 7; 28 to 49

yes; 7

4. $\frac{6}{19}; \frac{2}{5}$

no

5. Which is a better buy, 6 apples for $1.74 or 5 apples for $1.20? Why?

5 apples for $1.20; the unit rate, $.24 < $.29

Write the unit rate for each situation.

6. bike 21 km in 50 min — 0.42 km/min

7. earn $18 for 1 hr 15 min work — $14.40/h or $.24/min

8. sew 9 curtain panels in 15 days — 0.6 curtain panels per day

9. Wyatt spent $\frac{1}{4}$ of his money on a train set and $\frac{1}{2}$ on tickets to a play. He now has $18. How much money did Wyatt start with? Explain why you chose the method you did.

$72; sample answer: work backwards

Write each ratio in two other ways.

10. $\frac{5}{9}$

5 to 9; 5 : 9

11. 8 to 3

8 : 3, $\frac{8}{3}$

12. 12 : 15

12 to 15; $\frac{12}{15}$

Solve each proportion.

13. $\frac{n}{6} = \frac{25}{30}$

$n = 5$

14. $\frac{6.1}{x} = \frac{2}{3}$

$x = 9.15$

15. $\frac{100}{25} = \frac{t}{4}$

$t = 16$

16. Alonso can jog 2 miles in 16 minutes. Is it reasonable to assume that it will take him 24 minutes to jog 3 miles? Explain.

Yes; sample answer: the ratios form a proportion; $\frac{24 \text{ min}}{3 \text{ mi}} = \frac{16 \text{ min}}{2 \text{ mi}}$

Name _____ Class _____ Date _____

Chapter Test (continued) Form A

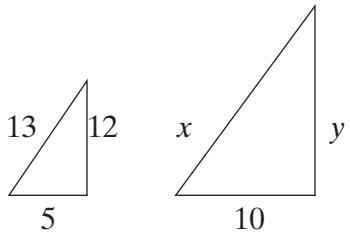
Chapter 4

17. Find the unit price of a 16 oz can of juice that costs $1.59.

about $0.10/oz

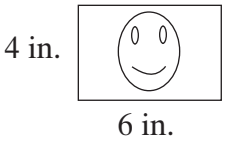
18. These triangles are similar. Find the values of x and y.

$x = 26$; $y = 24$



19. Taylor wants to enlarge this photograph so that the longest side measures 15 in. How wide will she need to make the photograph?

10 in.



The scale of a map is 2.5 cm : 40 km. Find the actual distance for each map distance. Round your answer to the nearest tenth if necessary.

20. 15 cm

240 km

21. 4 cm

64 km

22. 21 cm

336 km

23. Can you make two similar triangles using exactly 9 toothpicks? If so, explain how.

Yes. Use 3 toothpicks to make one triangle. Use 6 toothpicks to make a second triangle with 2 toothpicks for each side.