

Name _____

2.1 Ratio

MATHPOWER™ Eight, pp. 210-212

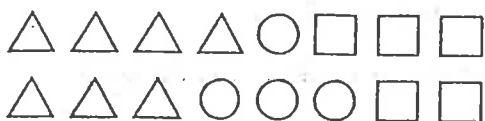
A ratio is a comparison of numbers with the same units.



The ratio of black to white is $\frac{4}{3}$ or 4:3 or 4 to 3.

As with fractions, ratios can be written in lowest terms.

Use the diagram to express each ratio in 3 ways.



1. triangles to circles

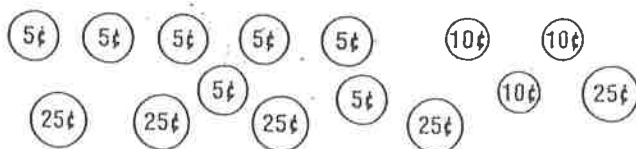
2. all shapes to triangles

3. squares to all shapes

4. squares to triangles

5. circles to squares

Describe the quantities being compared in each of the following ratios.



6. 5:7

7. 3:5

8. 7:3

9. 5:15

10. 7:15

Answers =

1. 7:4, 7 to 4, $\frac{7}{4}$ 2. 16:7, 16 to 7, $\frac{16}{7}$ 3. 5:16, 5 to

16, $\frac{5}{16}$ 4. 5:7, 5 to 7, $\frac{5}{7}$ 5. 4:5, 4 to 5, $\frac{4}{5}$

6. quarters to nickels 7. dimes to quarters

8. nickels to dimes 9. quarters to all coins

10. nickels to all coins 11. 3:4 12. 4:2 or 2:1

13. 9:1 14. 4:5 15. 2 to 3 16. 1:3 17. $\frac{3}{4}$ 18. $\frac{7}{2}$

19. 2 to 9 20. 1 to 2 21. 25 to 1 22. 73 to 5

For the names of the months, state the following ratios.

11. the months beginning with J to the months ending in R

12. the months ending with Y to the months beginning with A

13. the months with more than 4 letters to the months with less than 4 letters

14. the months with more than 7 letters to the months with less than 6 letters

Write each ratio in lowest terms.

15. 10 to 15

16. 4:12

17. $\frac{6}{8}$

18. $\frac{14}{4}$

Change each pair of quantities to the same unit and write as a ratio in lowest terms.

19. 40 min to 3 h

20. 3 quarters to 15 dimes

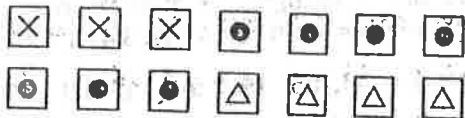
21. 5 m to 20 cm

22. 1 year to 25 days

2.1 Three-Term Ratios

MATHPOWER™ Eight, p. 213

Use the diagram to write the following ratios.



1. \square_X to \square_{\bullet} to \square_{\triangle}

2. \square_{\bullet} to \square_X to all squares

3. all squares to \square_{\triangle} to \square_{\bullet}

4. \square_{\triangle} to all squares to \square_{\bullet}

Write each ratio in lowest terms.

5. 9:12:3

6. 7:14:21

7. 100:50:150

8. 16:24:48

9. 10:30:50

10. 63:27:36

11. 12:16:40

12. 36:18:42

13. The annual numbers of days of fog in 3 Canadian cities are as follows.

Saint John 108, Montreal 20, Victoria 28

Write the ratio of days of fog in Saint John to days of fog in Victoria to days of fog in Montreal. Write the ratio in lowest terms.

Answers:

1. 3:7:4 2. 7:3:14 3. 14:4:7 4. 4:14:7 5. 3:4:1
 6. 1:2:3 7. 2:1:3 8. 2:3:6 9. 1:3:5 10. 7:3:4
 11. 3:4:10 12. 6:3:7 13. 27:7:5 14. a) 8:4:1
 b) 17:15:16 15. a) 5:3:2 b) 2:3:4 16. a) 12:5
 b) 12:5:34

14. The table shows the number of moons for each planet in the solar system.

Mercury	0
Venus	0
Earth	1
Mars	2
Jupiter	16
Saturn	17
Uranus	15
Neptune	8
Pluto	1

Write the following ratios in lowest terms.

a) moons of Jupiter to moons of Neptune to moons of Mars

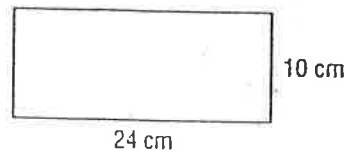
b) moons of Saturn to moons of Uranus to moons of Jupiter

15. A cash register contains twenty \$2 bills, twelve \$5 bills, and eight \$10 bills.

a) What is the ratio of \$2 bills to \$5 bills to \$10 bills? Write the ratio in lowest terms.

b) What is the ratio of the value of the \$2 bills to the value of the \$5 bills to the value of the \$10 bills? Write the ratio in lowest terms.

16.



a) Write the ratio of length to width in the rectangle. Write the ratio in lowest terms.

b) Write the ratio of length to width to perimeter. Write the ratio in lowest terms.
