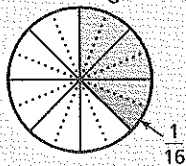


Exercise
18

Dividing Fractions by Whole Numbers

Divide a fraction by a whole number by rewriting the whole number as an improper fraction and then inverting it. Change the operation sign and multiply.

Divide. $\frac{3}{8} \div 6$



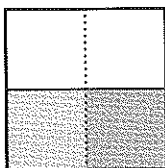
Rewrite the whole as an improper fraction.
Invert the divisor and change the operation sign.

Cancel and multiply.

$$\begin{aligned}\frac{3}{8} \div \frac{6}{1} \\ \frac{3}{8} \times \frac{1}{6} \\ \frac{\cancel{3}}{8} \times \frac{1}{\cancel{6}^2} = \frac{1}{16}\end{aligned}$$

Look at the figures. Divide to solve the problems.

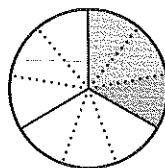
1.



Split each $\frac{1}{2}$ into 2 pieces.
What fraction would be in each piece?

$$\frac{1}{2} \div 2 =$$

2.



Split each $\frac{1}{3}$ into 3 pieces.
What fraction would be in each piece?

$$\frac{1}{3} \div 3 =$$

Divide. Reduce your answer to lowest terms.

3. $\frac{1}{2} \div 3 =$

4. $\frac{8}{9} \div 4 =$

5. $\frac{3}{4} \div 7 =$

6. $\frac{4}{5} \div 8 =$

7. $\frac{1}{3} \div 4 =$

8. $\frac{2}{3} \div 9 =$

9. $\frac{1}{4} \div 5 =$

10. $\frac{4}{12} \div 9 =$

11. $\frac{5}{6} \div 3 =$

12. $\frac{8}{10} \div 8 =$

13. $\frac{7}{8} \div 10 =$

14. $\frac{3}{4} \div 12 =$

15. $\frac{1}{2} \div 14 =$

16. $\frac{6}{9} \div 16 =$

17. $\frac{9}{11} \div 3 =$

18. $\frac{5}{7} \div 6 =$

19. $\frac{7}{10} \div 23 =$

20. $\frac{1}{3} \div 78 =$

21. $\frac{3}{4} \div 34 =$

22. $\frac{11}{12} \div 15 =$

Directions: Choose the one best answer to each item. Circle the number of the correct answer.

23. Todd has a piece of plywood that is $\frac{9}{16}$ of a foot in length. He needs to cut it into 3 pieces. How long will each piece be?

(1) $\frac{3}{16}$ foot
(2) $\frac{1}{16}$ foot
(3) $\frac{1}{4}$ foot
(4) $\frac{1}{2}$ foot
(5) $\frac{4}{16}$ foot

24. Sam has a $\frac{1}{2}$ -acre piece of land. He would like to divide it into 5 equal sections. How large will each section be?

(1) 10 acres
(2) $\frac{2}{10}$ acre
(3) $\frac{1}{10}$ acre
(4) $\frac{1}{2}$ acre
(5) 5 acres

25. A deli clerk wants to wrap $\frac{3}{8}$ pound of ham into 3 packages. How much ham will be wrapped in each package?

(1) $\frac{1}{6}$ pound
(2) $\frac{1}{3}$ pound
(3) $\frac{1}{8}$ pound
(4) $\frac{1}{9}$ pound
(5) $\frac{1}{24}$ pound

26. The broker has $\frac{2}{3}$ of a rare coin collection left. He wants to display it in 6 cases. What fraction of the original collection will he put into each case?

(1) $\frac{1}{5}$
(2) $\frac{1}{6}$
(3) $\frac{1}{8}$
(4) $\frac{1}{9}$
(5) $\frac{1}{3}$

27. Ms. Abate spends $\frac{10}{12}$ of the year teaching at the local college. She gives students a progress report 5 times a year. What fraction of the year would be represented by each report?

(1) $\frac{1}{5}$
(2) $\frac{1}{10}$
(3) $\frac{1}{12}$
(4) $\frac{1}{6}$
(5) $\frac{1}{3}$

28. In item 27, if the semester is 10 months long, how often will the students in Ms. Abate's class receive a report?

(1) after every 2 months
(2) after every 3 months
(3) after every 4 months
(4) after every 5 months
(5) after every 6 months

29. The Tanner family is donating $\frac{1}{2}$ of its book collection to the town library. The library will distribute the books among 3 branches. What fraction of the collection will each branch receive?

(1) $\frac{1}{6}$
(2) $\frac{1}{2}$
(3) $\frac{1}{3}$
(4) $\frac{2}{6}$
(5) $\frac{2}{3}$

30. In item 29, if the Tanner's book collection has 1,200 books total, how many books will each branch receive?

(1) 120
(2) 600
(3) 400
(4) 200
(5) 300