

5.

$$\frac{4}{1} \div \frac{3}{4}$$

$$\frac{4}{1} \times \frac{4}{3} = \frac{16}{3} = 5 \frac{1}{3}$$

Got It? Do these problems to find out.

d. $6 \div \frac{1}{3}$

e. $5 \div \frac{2}{3}$

f. $4 \div \frac{3}{4}$

© $5 \div \frac{2}{3}$

$$\frac{5}{1} \times \frac{3}{2} = \frac{15}{2}$$

Show your work.

d. 18

e. $7\frac{1}{2}$

f. $5\frac{1}{3}$

1. $\frac{2}{3} \frac{3}{2}$ _____



2. $\frac{1}{7} 7$ _____

3. $4 \frac{1}{4}$ _____

Divide. Write in simplest form. (Examples 4 and 5)


4. $2 \div \frac{1}{3} = 6$ _____

5. $2 \div \frac{4}{5} = 2\frac{1}{2}$ _____

6. $5 \div \frac{2}{7} = 17\frac{1}{2}$ _____

7. A neighborhood development that is 4 acres is to be divided into $\frac{2}{3}$ -acre lots. How many lots can be created?

(Example 6) **6 lots** _____

8.  **Building on the Essential Question** Why does a whole number divided by a fraction less than one have a quotient greater than the whole number dividend?

Sample answer: Since the divisor is less than one, each "part" is less than one whole. So, there will be more "parts" than "wholes."

Rate Yourself!

How well do you understand dividing whole numbers by fractions? Circle the item that applies.



Clear



Somewhat Clear



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Independent Practice

Go online for Step-by-Step Solutions

Find the reciprocal of each number. (Examples 1–3)

1. $\frac{3}{5}$ $\frac{5}{3}$ _____

2. $\frac{1}{4}$ 4 _____

3. 1 1 _____

Show your work.

Divide. Write in simplest form. (Examples 4 and 5)

4. $3 \div \frac{3}{4} = 4$ _____

5. $5 \div \frac{3}{4} = 6\frac{2}{3}$ _____

6. $8 \div \frac{4}{7} = 14$ _____


7. $6 \div \frac{3}{5} = 10$ _____

8. $2 \div \frac{5}{8} = 3\frac{1}{5}$ _____


9. $4 \div \frac{8}{9} = 4\frac{1}{2}$ _____

10. Jamar has an 8-foot-long piece of wood that he wants to cut to build a step stool for his tree house. If each piece is going to be $\frac{5}{6}$ foot long, what is the greatest number of pieces he will be able to use? (Example 6)

9 pieces

-  The average adult horse needs $\frac{2}{5}$ bale of hay each day to meet dietary requirements. A horse farm has 44 bales of hay. How many horses can be fed in one day with 44 bales of hay? (Example 6)

110 horses

12.  **Justify Conclusions** Ethan ordered 4 sub sandwiches for a party. Each $\frac{1}{2}$ sandwich is one serving. Does he have enough to serve 7 friends? How much is leftover or how much more is needed? Explain. **Yes; Since**

$4 \div \frac{1}{2} = 8$, Ethan will have 8 servings. He has one serving, or $\frac{1}{2}$ sandwich, leftover.



13. Chelsea has four hours of free time on Saturday. She would like to spend no more than $\frac{2}{3}$ of an hour on each activity. How many activities can she do during that time? Justify your procedure.

6 activities; $4 \div \frac{2}{3} = 4 \times \frac{3}{2} = \frac{12}{2} = 6$

14. **CCSS Model with Mathematics** Find an example of dividing a whole number by a fraction in a newspaper or on the Internet. Write a real-world problem in which you would divide a whole number by a fraction.

See students' work.



H.O.T. Problems Higher Order Thinking

15. **CCSS Find the Error** Daniella is solving $\frac{8}{9} \div 4$. Find her mistake and correct it.

Daniella did not multiply by the

reciprocal of 4, which is $\frac{1}{4}$.

$\frac{8}{9} \div 4 = \frac{8}{9} \times \frac{1}{4} = \frac{8}{36}$ or $\frac{2}{9}$

$$\frac{8}{9} \div 4 = \frac{8}{9} \times \frac{4}{1}$$
$$= \frac{32}{9} \text{ or } 3\frac{5}{9}$$



16. **CCSS Persevere with Problems** The Snack Shack is making a batch of trail mix. They use $9\frac{1}{3}$ pounds of granola, $9\frac{1}{3}$ pounds of mixed nuts, and $9\frac{1}{3}$ pounds of yogurt raisins to make the trail mix. They divide the mixture into 14 packages. How much is in each package? Explain.

2 pounds; Sample answer: To find the total amount of trail mix, multiply. $9\frac{1}{3} \times 3 = 28$; To find the amount in each package, divide. $28 \div 14 = 2$

17. **CCSS Reason Inductively** The bag of peanuts shown is on sale for \$9.30. The Pep club wants to divide the larger bag into $\frac{3}{4}$ -pound bags to sell at football games.

a. How much will it cost to fill one smaller bag?

\$1.40

b. How many pounds of peanuts will be remaining?

$\frac{1}{2}$ pound

c. How many smaller bags can the club get from one 5-pound bag?

6 bags

d. Suppose the club wants to sell 25 smaller bags. How many of the larger bags will they need to purchase? Explain.

4 bags; $25 \times \frac{3}{4} = 18\frac{3}{4}$; $18\frac{3}{4} \div 5 = 3\frac{3}{4}$; Since you can't buy part of a bag, they would need to buy 4 bags.

