Lesson 9-2

Monday, February 3, 2020 1:48 PM

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Name _____

Solve

Lesson 9-2
Fractions and Mixed Numbers as Quotients

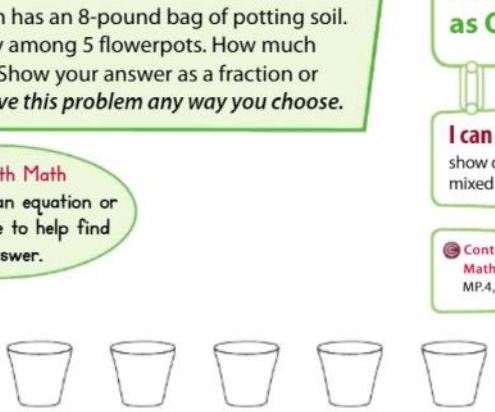
Solve & Share

Jonah has an 8-pound bag of potting soil. He divides it evenly among 5 flowerpots. How much soil is in each pot? Show your answer as a fraction or mixed number. ***Solve this problem any way you choose.***

I can ...
show quotients as fractions and mixed numbers.

Content Standard 5.NF.B.3
Mathematical Practices MP.1, MP.2, MP.3, MP.4, MP.6

Model with Math
You can write an equation or draw a picture to help find the answer.



$8 \div 5 = S$

$S = \frac{8}{5} = 1\frac{3}{5}$

$1\frac{3}{5}$ lbs. of soil.

Look Back! MP.6 Be Precise Suppose one of the pots breaks, so Jonah has to divide the soil evenly among 4 pots. How much soil is in each pot then?

$8 \div 4 = 2$

2 lbs of soil.

$4\frac{3}{5} = \frac{23}{5}$

$23 \div 5 = 4\frac{3}{5}$

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Learn Glossary A-Z

Essential Question

How Can You Show a Quotient Using a Fraction or Mixed Number?

A

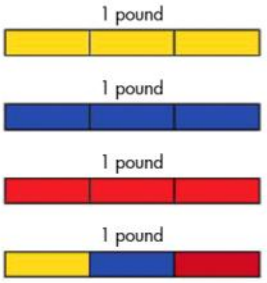
Three friends are going hiking. They bought a tub of trail mix to share equally. How much will each friend get?

B

Divide each pound into 3 equal parts. Each part is $1 \div 3$ or $\frac{1}{3}$.

Each friend gets 1 pound plus $\frac{1}{3}$ of a pound, or $1 + \frac{1}{3} = 1\frac{1}{3}$ pounds of trail mix in all.

So, $4 \div 3 = \frac{4}{3} = 1\frac{1}{3}$.



Convince Me! MP.2 Reasoning Kate shares a 64-ounce bottle of apple cider with 5 friends. Each person's serving will be the same number of ounces. Between what two whole number of ounces will each person's serving be? Explain using division.

$64 \div 6 = \frac{64}{6} = 10\frac{4 \div 2}{6 \div 2} \div 10\frac{2}{3}$ — Between 10 & 11 ounces per person

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Name _____

Guided Practice*

Do You Understand?

1. How can you write $\frac{10}{3}$ as a division expression and as a mixed number?

$10 \div 3$; $3\frac{1}{3}$

2. MP.2 Reasoning Suppose 3 friends want to share 16 posters equally. For this situation, why does the quotient 5 R1 make more sense than the quotient $5\frac{1}{3}$?

No one wants $\frac{1}{3}$ of a poster. There is 1 poster not being shared.

Do You Know How?

3. Find $11 \div 10$ and $10 \div 11$. Write each quotient as a fraction or mixed number.

$11 \div 10 = \frac{11}{10} = 1\frac{1}{10}$ $10 \div 11 = \frac{10}{11}$

In **4** and **5**, tell how much each person gets when they share equally.

4. 2 friends share 3 apples.

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

5. 3 students share 5 breakfast bars.

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

Complete #6, 9, 13, 15, 17, 18, 23 & 24
Work on DCCR 9-2
IXL K17 (35+)
Prodigy / Reflex

Independent Practice

In **6–13**, find each quotient. Write each answer as either a fraction or mixed number.

6. $11 \div 6$ $= \frac{11}{6}$ 7. $1\frac{5}{6} \div 5$ 8. $18 \div 4$ 9. $5 \div 9$ $= \frac{5}{9}$

10. $9 \div 8$ 11. $23 \div 10$ 12. $12 \div 17$ 13. $28 \div 20$ $= \frac{28}{20}$

$\frac{28}{20} = 1\frac{8}{20} \div \frac{4}{4} = 1\frac{2}{5}$

In **14–17**, tell how much each person gets when they share equally.

14. 2 girls share 7 yards of ribbon.

15. 4 friends share 7 bagels.

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

16. 4 cousins share 3 pies.

17. 8 soccer players share 12 oranges.

$12 \div 8 = \frac{12}{8} = 1\frac{4}{8} \div \frac{4}{4} = 1\frac{1}{2}$ oranges

*For another example, see Set A on page 577.

Math Practices and Problem Solving

18. Daniella made gift bows from 8 yards of ribbon. The bows are all the same size. If she made 16 bows, how much ribbon did she use for each one? Give the answer as a fraction or mixed number.

$8 \div 16 = \frac{8 \div 8}{16 \div 8} = \frac{1}{2}$ $\frac{1}{2}$ yd

19. **MP.6 Be Precise** Tammi has 4 pounds of gala apples and $3\frac{1}{2}$ pounds of red delicious apples. If she uses $1\frac{3}{4}$ pounds of gala apples in a recipe, how many pounds of apples does she have left?

20. Casey bought a 100-pound bag of dog food. He gave his dogs the same amount of dog food each week. The dog food lasted 8 weeks. How much dog food did Casey give his dogs each week? Give the answer as a fraction or mixed number.

21. **Higher Order Thinking** Write a word problem that can be solved by dividing 6 by 5.

22. The amount of fabric needed for an adult and a baby scarecrow costume is shown at the right. The amount of fabric for an adult scarecrow costume is how many times the amount of fabric for a baby scarecrow costume? Give the answer as a fraction or mixed number.

Common Core Assessment

23. Which is the quotient $37 \div 6$?

Ⓐ $\frac{6}{37}$
Ⓑ $6\frac{1}{6}$
Ⓒ $6\frac{5}{6}$
Ⓓ $6\frac{1}{37}$

$\frac{37}{6} = 6\frac{1}{6}$ B

24. Lindsay divides 40 by 9. Between what two whole numbers is her answer?

Ⓐ 2 and 3
Ⓑ 3 and 4
Ⓒ 4 and 5
Ⓓ 5 and 6

$40 \div 9 = \frac{40}{9} = 4\frac{4}{9}$ → Between 4 & 5 C

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