Unit Fraction Division

Share Fractions and Count Pieces



Unit fraction divided by *a* whole number

Whole number divided by *a* unit fraction

26 pages | 44 practice items | Complete worked keys

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Grade 5 Unit Fraction Division

Georgia's K-12 Mathematics Standards

5.NR.3.6

Model and solve problems involving division of a unit fraction by a whole number and a whole number by a unit fraction.

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Model the two division meanings

Unit fraction shared: the frame is one whole. Diagonal hatches mark the given unit column, and crosshatching marks one equal share within it. The other unit columns could be split the same way. Whole numbers divided into pieces: each bar is one whole; count all pieces of the given unit size.

Use the worked reasoning

Begin with models, then explain the shares or piece count. Check by multiplying quotient by divisor. A and B on stories label the displayed givens, not unknowns. Accept equivalent fractions and other valid part-whole strategies; simplifying is not required.

Packet design limits

Divisors/denominators 2, 3, 4, 5, 6, 8, 9, 10, 12; denominator times whole count at most 60. These are packet limits. Page 9 has four mistaken claims; page 13 spells PIECES, with extra T for the Spotlight.

Follow Touchstone Standards on TPT for new resources. After using this packet, an honest review helps us improve.

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Share *a* Unit Fraction

Name: _____

The frame is one whole. Diagonals show the given fraction; crosshatching shows one share.

Strategy Spotlight

$\frac{1}{2} \div 7$

Split 1/2 into 7 shares.
Whole: 2 x 7 = 14 parts.
Check: 7 x 1/14 = 1/2

Exact: $\mathbf{\frac{1}{14}}$

1.

$\frac{1}{4} \div 2$

1 whole; diagonal given; X share



Answer:

2.

$\frac{1}{6} \div 2$

1 whole; diagonal given; X share



Answer:

3.

$\frac{1}{5} \div 3$

1 whole; diagonal given; X share



Answer:

4.

$\frac{1}{5} \div 4$

1 whole; diagonal given; X share



Answer:

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Answer Key: Share *a* Unit Fraction

Student page 3

The frame is one whole. Diagonals show the given fraction; crosshatching shows one share.

Strategy Spotlight

$\frac{1}{2} \div 7$

Split 1/2 into 7 shares.
Whole: 2 x 7 = 14 parts.
Check: 7 x 1/14 = 1/2

Exact: $\frac{1}{14}$

1.

$\frac{1}{4} \div 2$

1 whole; diagonal given; X share



Split 1/4 into 2 shares.
Whole: 4 x 2 = 8 parts.
Check: 2 x 1/8 = 1/4

$\frac{1}{8}$

2.

$\frac{1}{6} \div 2$

1 whole; diagonal given; X share



Split 1/6 into 2 shares.
Whole: 6 x 2 = 12 parts.
Check: 2 x 1/12 = 1/6

$\frac{1}{12}$

3.

$\frac{1}{5} \div 3$

1 whole; diagonal given; X share



Split 1/5 into 3 shares.
Whole: 5 x 3 = 15 parts.
Check: 3 x 1/15 = 1/5

$\frac{1}{15}$

4.

$\frac{1}{5} \div 4$

1 whole; diagonal given; X share



Split 1/5 into 4 shares.
Whole: 5 x 4 = 20 parts.
Check: 4 x 1/20 = 1/5

$\frac{1}{20}$

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Count Unit-Fraction Pieces

Name: _____

Each bar is one whole. Count the equal unit-fraction pieces in all the bars.

Strategy Spotlight

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

One whole has 3 pieces.
Count: 6 x 3 = 18
Check: 18 x 1/3 = 6

Exact: **18**

9.

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

Each bar = 1 whole



Answer:

10.

$1 \div \frac{1}{5}$

Each bar = 1 whole



Answer:

11.

$2 \div \frac{1}{5}$

Each bar = 1 whole

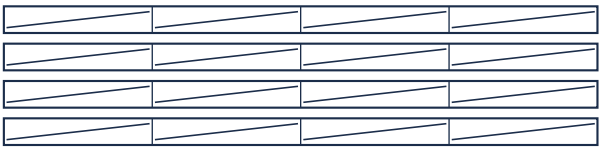


Answer:

12.

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

Each bar = 1 whole



Answer:

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Answer Key: Count Unit-Fraction Pieces

Student page 5

Each bar is one whole. Count the equal unit-fraction pieces in all the bars.

Strategy Spotlight

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

One whole has 3 pieces.
Count: 6 x 3 = 18
Check: 18 x 1/3 = 6

Exact: **18**

9.

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

Each bar = 1 whole



One whole has 3 pieces.
Count: 1 x 3 = 3
Check: 3 x 1/3 = 1

3

10.

$1 \div \frac{1}{5}$

Each bar = 1 whole



One whole has 5 pieces.
Count: 1 x 5 = 5
Check: 5 x 1/5 = 1

5

11.

$2 \div \frac{1}{5}$

Each bar = 1 whole



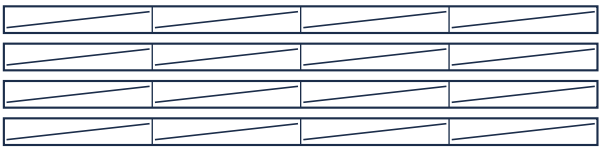
One whole has 5 pieces.
Count: 2 x 5 = 10
Check: 10 x 1/5 = 2

10

12.

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

Each bar = 1 whole



One whole has 4 pieces.
Count: 4 x 4 = 16
Check: 16 x 1/4 = 4

16

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