

Fractions: Of Amounts & Multiplying

Starter

1. Fully simplify: $\frac{18}{24}$

2. Calculate: $2\frac{1}{3} + 1\frac{1}{2}$

3. Using the bar models to the left:

$\frac{1}{2}$ of 20 = $\underline{\hspace{1cm}}$ $\frac{1}{4}$ of 20 = $\underline{\hspace{1cm}}$ $\frac{3}{4}$ of 20 = $\underline{\hspace{1cm}}$

4. Calculate:

$\frac{1}{3}$ of 24 $\frac{2}{3}$ of 24

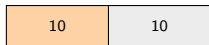
5. Fill in the blank: $\frac{3}{4}$ of $\underline{\hspace{1cm}}$ = 18

6. Find $\frac{2}{5}$ of 35.

7. Amy cuts a 60 cm ribbon and takes $\frac{3}{4}$ of it. How long is her piece?

8. True or false? " $\frac{1}{2}$ of 30 = $30 \div 2$." Explain your reasoning.

20



$\frac{1}{2}$ of 20 = ?



$\frac{1}{4}$ of 20 = ?



$\frac{3}{4}$ of 20 = ?

Starter

1. Fully simplify: $\frac{18}{24} \frac{3}{4}$ 2. Calculate: $2\frac{1}{3} + 1\frac{1}{2} = 3\frac{5}{6}$

3. Using the bar models to the left:

$$\frac{1}{2} \text{ of } 20 = 10 \quad \frac{1}{4} \text{ of } 20 = 5 \quad \frac{3}{4} \text{ of } 20 = 15$$

4. Calculate:

$$\frac{1}{3} \text{ of } 24 \quad \frac{2}{3} \text{ of } 24$$

8 and 16

5. Fill in the blank: $\frac{3}{4}$ of 24 = 18

6. Find $\frac{2}{5}$ of 35. 14

7. Amy cuts a 60 cm ribbon and takes $\frac{3}{4}$ of it. How long is her piece? 45 cm

8. True or false? " $\frac{1}{2}$ of 30 = $30 \div 2$." Explain your reasoning. True. $\frac{1}{2}$ of 30 = 15 and $30 \div 2 = 15$.

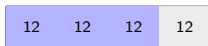
Starter

1. Order smallest to largest: $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{12}$

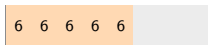
2. Convert $\frac{17}{5}$ to a mixed number.

3. Use the bar model to find $\frac{3}{4}$ of 48 and $\frac{5}{8}$ of 48.

48



$\frac{3}{4}$ of 48 = ?



$\frac{5}{8}$ of 48 = ?

4. Calculate: $\frac{5}{8}$ of 72

5. $\frac{2}{3}$ of a class of 30 are girls. How many boys are there?

6. Rania says " $\frac{3}{5}$ of 40 = 24". Is she correct? Show your working.

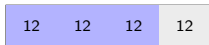
7. Which is greater:
 $\frac{3}{4}$ of 60 or $\frac{4}{5}$ of 55?

8. Fill in the blank:

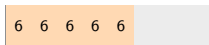
$\frac{\quad}{8}$ of 64 = 40

Starter

48



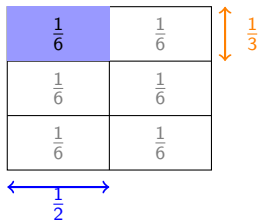
$\frac{3}{4}$ of 48 = 36



$\frac{5}{8}$ of 48 = 30

1. Order smallest to largest: $\frac{3}{8}, \frac{1}{2}, \frac{5}{12}$ $\frac{3}{8} < \frac{5}{12} < \frac{1}{2}$
2. Convert $\frac{17}{5}$ to a mixed number. $3\frac{2}{5}$
3. Use the bar model to find $\frac{3}{4}$ of 48 and $\frac{5}{8}$ of 48. 36 and 30
4. Calculate: $\frac{5}{8}$ of 72 = 45
5. $\frac{2}{3}$ of a class of 30 are girls. How many boys are there?
10 boys
6. Rania says " $\frac{3}{5}$ of 40 = 24". Is she correct? Show your working. Yes; $\frac{3}{5} \times 40 = 24$.
7. Which is greater:
 $\frac{3}{4}$ of 60 or $\frac{4}{5}$ of 55? $\frac{3}{4}$ of 60 (= 45)
8. Fill in the blank:
 $\frac{5}{8}$ of 64 = 40

Starter



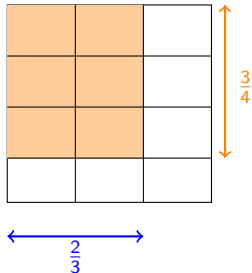
1. What is $\frac{1}{2}$ of $\frac{1}{2}$? Draw a picture to show your answer.

2. Use the area model on the left to calculate $\frac{1}{2} \times \frac{1}{3} = \underline{\hspace{1cm}}$

3. Use the second area model to calculate and simplify:
 $\frac{2}{3} \times \frac{3}{4} = \frac{\hspace{1cm}}{\hspace{1cm}} = \frac{\hspace{1cm}}{\hspace{1cm}}$

4. Calculate:

$$\frac{3}{5} \times \frac{5}{7}$$

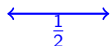
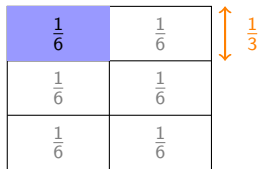


5. Simplify *then* multiply: $\frac{3}{9} \times \frac{4}{8}$

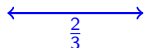
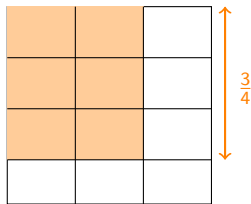
6. Find $\frac{3}{4}$ of $\frac{2}{5}$. What do you notice about “of” and “ $\times$ ”?

7. Calculate: $1\frac{1}{2} \times 1\frac{1}{2}$

Starter



Q1: $\frac{1}{2}$ of $\frac{1}{2} = \frac{1}{4}$



- What is $\frac{1}{2}$ of $\frac{1}{2}$? Draw a picture to show your answer.

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

- Use the area model on the left to calculate $\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$

- Use the second area model to calculate and simplify:

$$\frac{2}{3} \times \frac{3}{4} = \frac{6}{12} = \frac{1}{2}$$

- Calculate:

$$\frac{3}{5} \times \frac{5}{7}$$

$$= \frac{3}{7}$$

- Simplify *then* multiply: $\frac{3}{9} \times \frac{4}{8} = \frac{1}{6}$

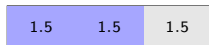
- Find $\frac{3}{4}$ of $\frac{2}{5}$. What do you notice about “of” and “ $\times$ ”? $\frac{3}{10}$; “of” means multiply.

- Calculate: $1\frac{1}{2} \times \frac{1}{2}$

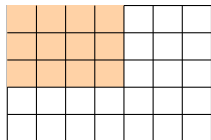
Starter

1. Simplify: $\frac{24}{36}$
2. $3\frac{1}{4} - 1\frac{2}{3}$
3. $\frac{5}{6}$ of 42

$4\frac{1}{2}$ m wall



$$\frac{3}{5} \times \frac{4}{7}$$



4. A wall is $4\frac{1}{2}$ m long. A mural covers $\frac{2}{3}$ of it. Use the bar model to find the length of the mural.
5. Use the area model to calculate: $\frac{3}{5} \times \frac{4}{7} = \frac{\quad}{\quad}$
6. Which is greater: $\frac{2}{3} \times \frac{3}{4}$, or $\frac{3}{4}$ of $\frac{2}{3}$? Explain.

7. Fill in the blank:

$$\frac{3}{5} \times \frac{\quad}{\quad} = \frac{6}{35}$$

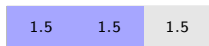
two proper fractions always gives a smaller result than either fraction." Explain or give a counterexample.

8. True or false? "Multiplying

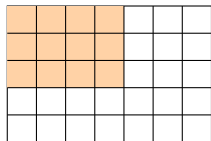
Starter

1. Simplify: $\frac{24}{36} \times \frac{2}{3}$ 2. $3\frac{1}{4} - 1\frac{2}{3} = 1\frac{7}{12}$ 3. $\frac{5}{6}$ of 42 = 35

$4\frac{1}{2}$ m wall



$$\frac{3}{5} \times \frac{4}{7}$$



4. A wall is $4\frac{1}{2}$ m long. A mural covers $\frac{2}{3}$ of it. Use the bar model to find the length of the mural. 3 m

5. Use the area model to calculate: $\frac{3}{5} \times \frac{4}{7} = \frac{12}{35}$

6. Which is greater: $\frac{2}{3} \times \frac{3}{4}$, or $\frac{3}{4}$ of $\frac{2}{3}$? Explain. They are equal ($\frac{1}{2}$).

7. Fill in the blank:

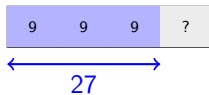
$$\frac{3}{5} \times \frac{2}{7} = \frac{6}{35}$$

two proper fractions always gives a smaller result than either fraction." Explain or give a counterexample.

True; e.g. $\frac{2}{3} \times \frac{3}{4} = \frac{1}{2}$, which is smaller than both.

8. True or false? "Multiplying

Starter

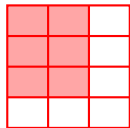


1. Simplify: $\frac{20}{30}$
2. Simplify: $\frac{84}{108}$
3. Convert $4\frac{3}{5}$ to an improper fraction.
4. Calculate: $2\frac{3}{4} + 1\frac{3}{5}$
5. $\frac{3}{4}$ of a number is 27. Use the bar model to find the whole number.
6. Jack spends $\frac{1}{3}$ of his pocket money on Monday and $\frac{1}{4}$ on Tuesday. What fraction remains?
7. A jug holds $1\frac{1}{2}$ litres. You fill $\frac{2}{3}$ of it. How many millilitres is that?
8. Show that $\frac{2}{3} \times \frac{3}{4} = \frac{3}{4} \times \frac{2}{3}$ using area diagrams.

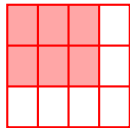
Starter



↔
27



Q7: $\frac{2}{3} \times \frac{3}{4} = \frac{6}{12}$



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

1. Simplify: $\frac{20}{30} \frac{2}{3}$
2. Simplify: $\frac{84}{108} \frac{7}{9}$
3. Convert $4\frac{3}{5}$ to an improper fraction. $\frac{23}{5}$
4. Calculate: $2\frac{3}{4} + 1\frac{3}{5} = 4\frac{7}{20}$
5. $\frac{3}{4}$ of a number is 27. Use the bar model to find the whole number. 36
6. Jack spends $\frac{1}{3}$ of his pocket money on Monday and $\frac{1}{4}$ on Tuesday. What fraction remains? $\frac{5}{12}$
7. A jug holds $1\frac{1}{2}$ litres. You fill $\frac{2}{3}$ of it. How many millilitres is that? 1000 mL
8. Show that $\frac{2}{3} \times \frac{3}{4} = \frac{3}{4} \times \frac{2}{3}$ using area diagrams.