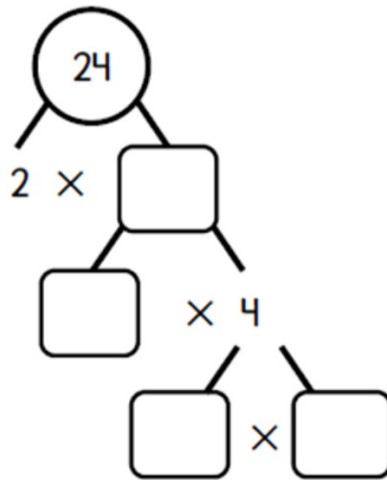


## 10.1.22

### How do you subtract a mixed number?

4 Complete the prime factor tree.



mixed fraction

proper fraction

improper fraction

denominator

numerator

fraction

Which method would you use?

$$4\frac{4}{5} - 1\frac{9}{10} =$$

$$2\frac{1}{3} - 1\frac{1}{7} =$$

$$3\frac{7}{9} - 1\frac{5}{12} =$$

$$3\frac{5}{11} - 1\frac{4}{5} =$$

Task

$$3\frac{1}{4} - 1\frac{1}{2} =$$

$$5\frac{3}{5} - 2 =$$

$$4\frac{1}{3} - 3\frac{3}{5} =$$

$$12\frac{1}{6} - 5\frac{1}{4} =$$

$$5 - 2\frac{3}{5} =$$

$$5\frac{3}{4} - \frac{9}{10} =$$

## Plenary

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Jack is calculating  $4\frac{2}{7} - 2\frac{6}{7}$

He adds  $\frac{1}{7}$  to both numbers.



$$4\frac{2}{7} - 2\frac{6}{7} = 4\frac{3}{7} - 3$$

so the answer is  $1\frac{3}{7}$

Explain why Jack is correct.

11.1.22

How do you multiply a fraction by a whole number?

5 Which two calculations give the same answer?

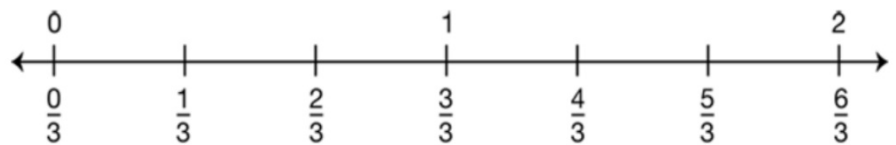
A  $6 + 4 \times 7$

B  $(6 + 4) \times 7$

C  $6 + (4 \times 7)$

A boat uses  $\frac{1}{3}$  of a tank of fuel for each trip it takes. How much fuel does it use for 5 trips?

A boat uses  $\frac{1}{3}$  of a tank of fuel for each trip it takes. How much fuel does it use for 5 trips?



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

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

On Saturday the boat makes 7 trips and uses  $\frac{1}{3}$  of a tank of fuel each time.

How much fuel was used on Saturday?

$$20 \times \frac{1}{4} =$$

$$\frac{1}{4} \times 20 =$$

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



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

Calculate

$$\frac{1}{4} \times 2 =$$

$$4 \times \frac{2}{6}$$

Task

$$\frac{1}{4} \times 7 =$$

$$\frac{2}{5} \times 4 =$$

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

$$\frac{1}{2} \times 7 =$$

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

$$\frac{3}{8} \times 6 =$$

$$\frac{7}{10} \times 5 =$$

Plenary

How would you solve this?

$$2 \approx \sqrt{\frac{1}{2}} =$$

12.1.22

Can you multiply a mixed number by a whole number?

6 Tick the card that has the greatest value.

$10^2$

$3^3$

$5^3$

mixed fraction

proper fraction

improper fraction

denominator

numerator

fraction

How do you calculate:

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

$$\frac{4}{11} \times 4 =$$

A boat trip takes  $1 \frac{1}{4}$  hours to complete.

There are 5 trips in one day.

How long is the boat operating each day?

### Method 1

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

$$1 \times 5 = 5$$

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

$$5 + 1\frac{1}{4} = 6\frac{1}{4}$$

### Method 2

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

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

$$\frac{5}{4} \times 5 = \frac{25}{4}$$

$$\frac{25}{4} = 6\frac{1}{4}$$

A fishing boat offers fishing trips. During each trip the boat travels  $1\frac{2}{5}$ km. How far does the boat travel in 4 trips?

# Challenge

2) Using each of the digits 1 to 6 only once investigate completing these multiplication statements.

a)  $? \times ? \frac{?}{?} =$  greatest possible answer. (Don't make an improper fraction within a mixed number.)

b)  $? \times ? \frac{?}{?} =$  mixed number answer with  $1/2$  as the fraction

13.1.22

How do you multiply a fraction by a fraction?

What is a fraction?

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





If they use  $\frac{1}{2}$  of the  
oats, how much of the  
full bag did they use?



They use  $\frac{1}{2}$  of the butter. How much of the whole block will they use?

The bag of sugar is  $\frac{1}{3}$  full. Bella uses  $\frac{1}{3}$  of the sugar in the bag.

What fraction of the bag will she use?

## Task - represent and calculate

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

$$\frac{1}{2} \times \frac{1}{9} =$$

$$\frac{1}{4} \times \frac{1}{6} =$$

$$\frac{1}{4} \times \frac{1}{8} =$$

$$\frac{1}{3} \times \frac{1}{7} =$$

$$\frac{1}{3} \times \frac{1}{6} =$$

Plenary

How would you represent  $\frac{1}{2} \times \frac{1}{9}$ ?

14.1.22

Can you multiply two fractions together?

mixed fraction

proper fraction

improper fraction

denominator

numerator

fraction

How do we multiply 2 fractions together?

Calculate

$$1/5 \times 3/10 =$$

$$1/2 \times 3/10 =$$

$$1/4 \times 3/5 =$$

Task

$$1/2 \times 1/4 =$$

$$3/4 \times 1/2 =$$

$$1/5 \times 1/3 =$$

$$2/3 \times 2/5 =$$

$$3/4 \times 2/5 =$$

$$2/3 \times 5/6 =$$

$$1/5 \times 3/10 =$$

$$1/4 \times 2/3 =$$

$$1/5 \times 3/4 =$$

$$1/3 \times 3/10 =$$

$$1/2 \times 3/8 =$$

$$1/4 \times 2/5 =$$

$$1/5 \times 3/8 =$$

## Plenary

How many ways can you complete the missing digits?

$$\begin{array}{r} \text{☀} \\ \hline \text{☀} \end{array} \times \frac{3}{\text{☀}} = \frac{6}{12}$$
$$= \frac{\text{☀}}{2}$$

