

RECALL

Convert these improper fractions into mixed numbers.

$$\frac{5}{4}$$

$$\frac{7}{5}$$

$$\frac{5}{3}$$

$$\frac{12}{5}$$

$$\frac{17}{3}$$

$$\frac{16}{4}$$

$$\frac{21}{5}$$

$$\frac{26}{8}$$

$$\frac{37}{6}$$

$$\frac{73}{12}$$

RECALL

Convert these improper fractions into mixed numbers.

$1\frac{1}{4}$

$1\frac{2}{5}$

$1\frac{2}{3}$

$2\frac{2}{5}$

$5\frac{2}{3}$

4

$4\frac{1}{5}$

$3\frac{1}{4}$

$6\frac{1}{6}$

$6\frac{1}{12}$

answers

L.O. - TO MULTIPLY PROPER FRACTIONS AND MIXED NUMBERS BY A WHOLE NUMBER

- **SOME WILL EVEN:** Multiply mixed numbers by integers
- **SOME WILL:** Begin to convert mixed to improper to multiply
- **MOST WILL:** Multiply proper fractions by integers
- **ALL WILL:** Draw bars to represent multiplying fractions by integers

GUIDED PRACTICE – MY TURN



The boat uses $\frac{1}{3}$ of a tank of fuel for each trip.

1. How many tanks of fuel are used in a day?
2. What is the total duration of the boat trips in a day?

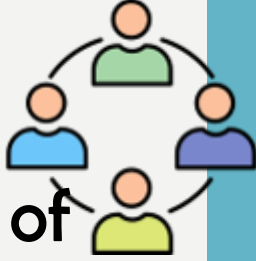
help

Draw a bar model to help you.



How many different ways can you show these calculations?
What if the boat used $\frac{2}{3}$ of a tank of fuel instead?

GUIDED PRACTICE – OUR TURN



The boat uses $\frac{1}{3}$ of a tank of fuel for each trip.

1. How many tanks of fuel are used in a day?
2. What is the total duration of the boat trips in a day?

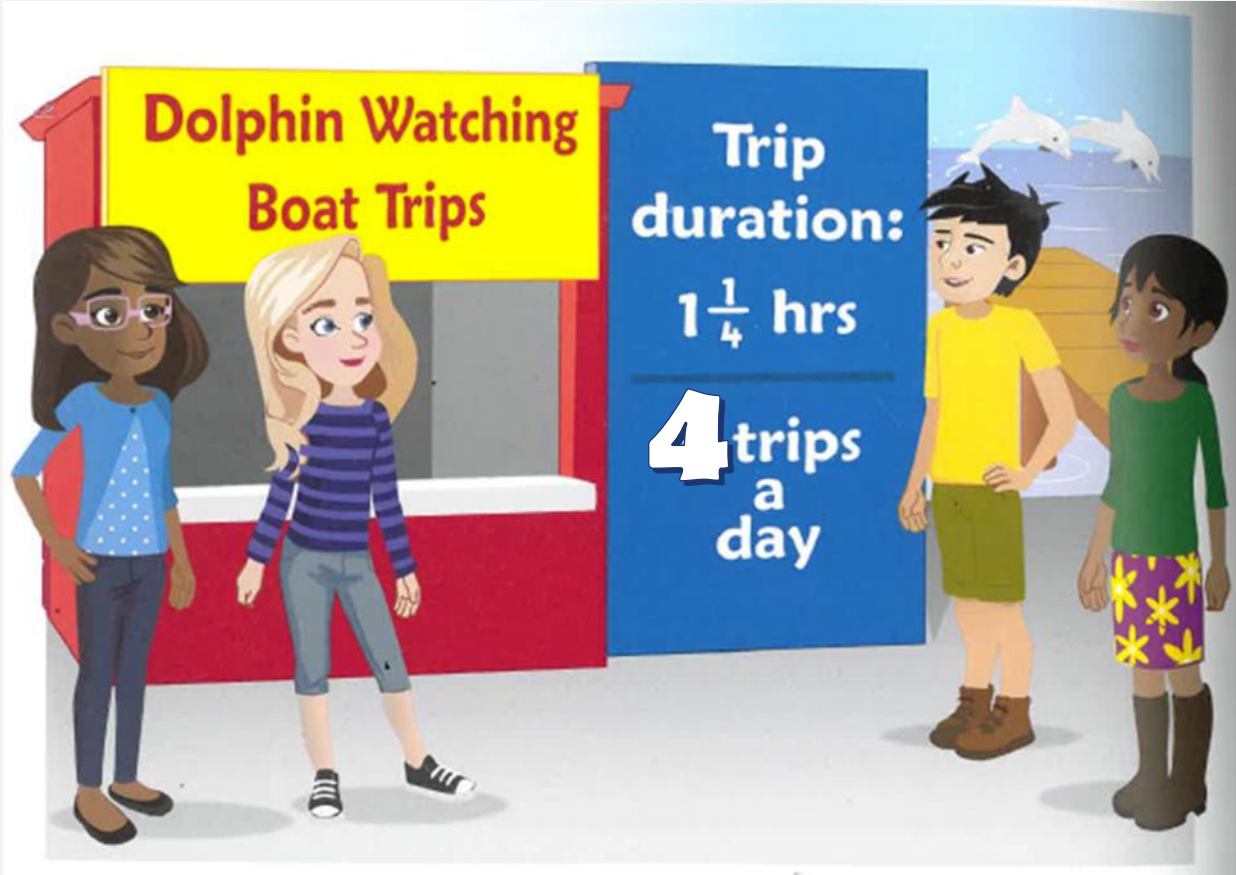
help

Draw a bar model to help you.



How many different ways can you show these calculations?
What if the boat used $\frac{2}{3}$ of a tank of fuel instead?

GUIDED PRACTICE – YOUR TURN



The boat uses $\frac{1}{5}$ of a tank of fuel for each trip.

1. How many tanks of fuel are used in a day?
2. What is the total duration of the boat trips in a day?

help

Draw a bar model to help you.



How many different ways can you show these calculations?
What if the boat used $\frac{2}{5}$ of a tank of fuel instead?

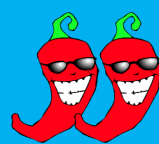


1) $\frac{1}{8} + \frac{1}{8} =$

2) $\frac{1}{8} + \frac{1}{8} + \frac{1}{8} =$

3) $\frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} =$

4) $\frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} =$

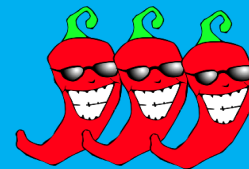


1) $2 \times \frac{1}{8} =$

2) $3 \times \frac{1}{8} =$

3) $4 \times \frac{1}{8} =$

4) $5 \times \frac{1}{8} =$



1) $2 \times \frac{3}{8} =$

2) $\frac{3}{8} \times 3 =$

3) $4 \times \frac{3}{8} =$

4) $\frac{3}{8} \times 5 =$



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

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

$5 \times 1\frac{5}{6} =$

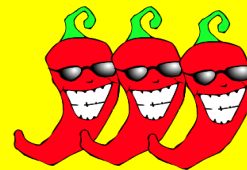


1) $\frac{2}{8} = \frac{1}{4}$

2) $\frac{3}{8}$

3) $\frac{4}{8} = \frac{1}{2}$

4) $\frac{5}{8}$



1) $\frac{6}{8}$

2) $\frac{9}{8} = 1\frac{1}{8}$

3) $\frac{12}{8} = 1\frac{4}{8}$

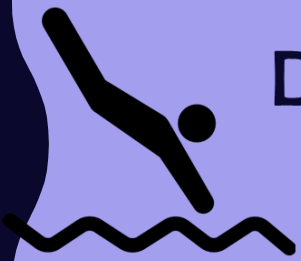
4) $\frac{15}{8} = 1\frac{7}{8}$



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

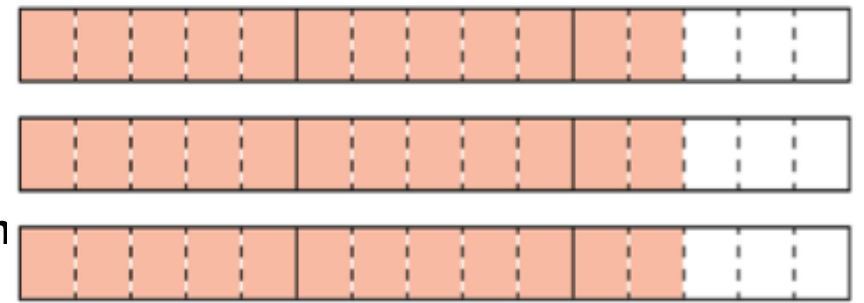
$5 \times 1\frac{5}{6} = 9\frac{1}{6}$

answers



DIVE DEEPER 1

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



Can you solve this in more than one way?

2) A fishing boat offers trips.

During each trip the boat travels $\frac{4}{5}$ km.

How far does the boat travel in 4 trips?

3) Match the calculations

$$\frac{2}{3} + \frac{2}{3}$$

$$\frac{1}{4} \times 24$$

$$\frac{3}{4} + \frac{3}{4} + \frac{3}{4} + \frac{3}{4}$$

$$\frac{5}{12} \times 4$$

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

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

$$18 \times \frac{1}{4}$$

$$\frac{1}{6} \times 10$$

$$12 \times \frac{1}{2}$$

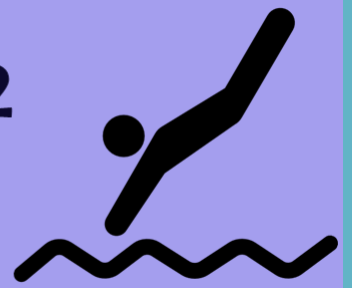
$$\frac{1}{3} \times 4$$

4) Fill in the missing numbers

a) $2 \frac{\boxed{}}{7} \times 3 = 6 \frac{6}{7}$

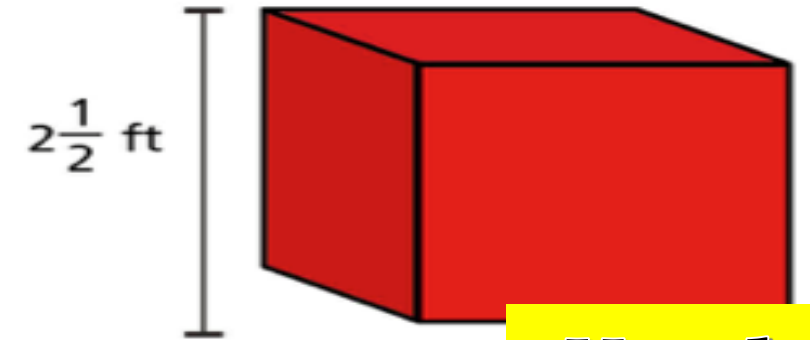
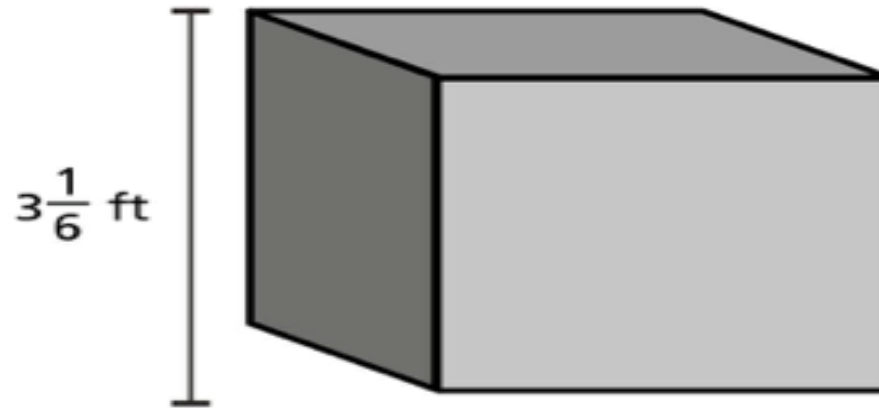
b) $2 \frac{\boxed{}}{8} \times 3 = 7 \frac{1}{2}$

DIVE DEEPER 2



5) Tommy's dog eats $3 \frac{1}{2}$ tins of dog food a week.

How many tins does Tommy's dog eat in a year?



Jack builds a tower using grey blocks.

Alex builds a tower using red blocks.

The towers are exactly the same height.

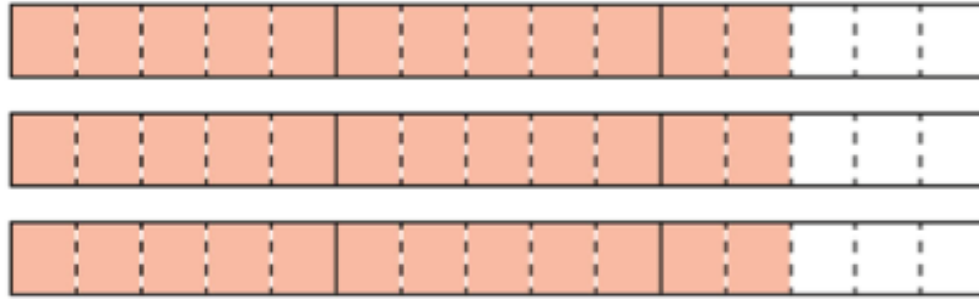
How many blocks could they each have used?

Hard





1) $2 \frac{2}{5} \times 3 = 7 \frac{1}{5}$



Can you solve this in more than one way?

2) A fishing boat offers trips.
During each trip the boat travels $\frac{4}{5}$ km.
How far does the boat travel in 4 trips? $\frac{16}{5}$ or 3 and $\frac{1}{5}$

3) Match the calculations

$\frac{2}{3} + \frac{2}{3}$	$\frac{1}{2} \times 6$
$\frac{1}{4} \times 24$	$18 \times \frac{1}{4}$
$\frac{3}{4} + \frac{3}{4} + \frac{3}{4} + \frac{3}{4}$	$\frac{1}{6} \times 10$
$\frac{5}{12} \times 4$	$12 \times \frac{1}{2}$
$1\frac{1}{2} \times 3$	$\frac{1}{3} \times 4$

4. Fill in the missing numbers

a) $2\frac{\boxed{2}}{7} \times 3 = 6\frac{6}{7}$

b) $2\frac{\boxed{4}}{8} \times 3 = 7\frac{1}{2}$

5. Tommy's dog eats $3\frac{1}{2}$ tins of dog food a week.

How many tins does Tommy's dog eat in a year? $3\frac{1}{2} \times 52 = 156 + \frac{52}{2}$
 $= 156 + 26$
 $= 182$



One possible answer –
47 and a half total height
19 red blocks
12 grey blocks



9a. Sean and Nancy recorded their training for a running race.

Sean ran $\frac{10}{8}$ km every day for 11 days.

Nancy ran $\frac{14}{5}$ km every day.

In total, Nancy ran further than Sean.
What is the smallest number of days she could have run for?

If she had run an extra four fifths of a kilometre per day, would she have run further than Sean in one day less?



6 PS

9b. Fatima and Claude recorded their training for a running race.

Fatima ran $\frac{16}{13}$ km every day for 9 days.

Claude ran $\frac{17}{12}$ km every day.

In total, Claude ran further than Nancy.
What is the smallest number of days he could have run for?

If he had run an extra two twelfths of a kilometre per day, would he have run further than Fatima in one day less?

