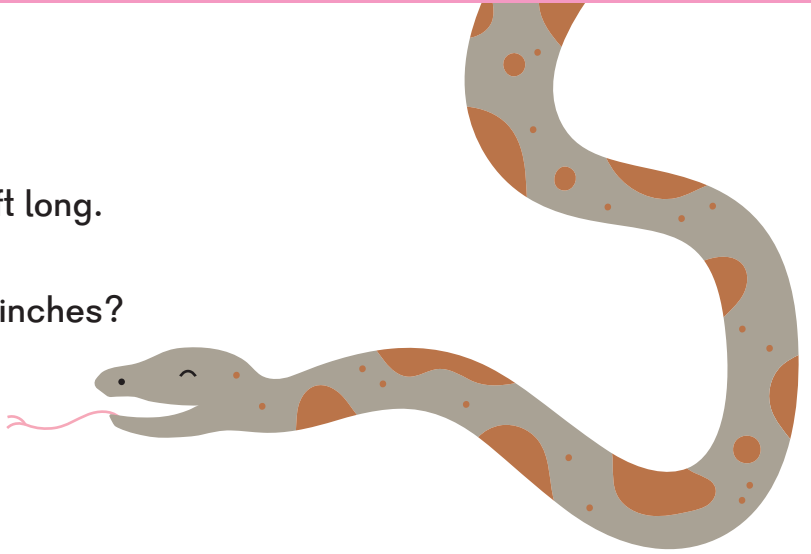


Think

Crotalus, the zoo's rattlesnake, is $3\frac{2}{3}$ ft long.

(a) How long is Crotalus in feet and inches?

(b) How long is Crotalus in inches?



Learn

(a) $3\frac{2}{3}$ ft = 3 ft + $\frac{2}{3}$ ft

= 3 ft + 8 in

= 3 ft 8 in

$\frac{2}{3}$ ft = $\frac{2}{3} \times 12$ in



Crotalus is _____ ft _____ in long.

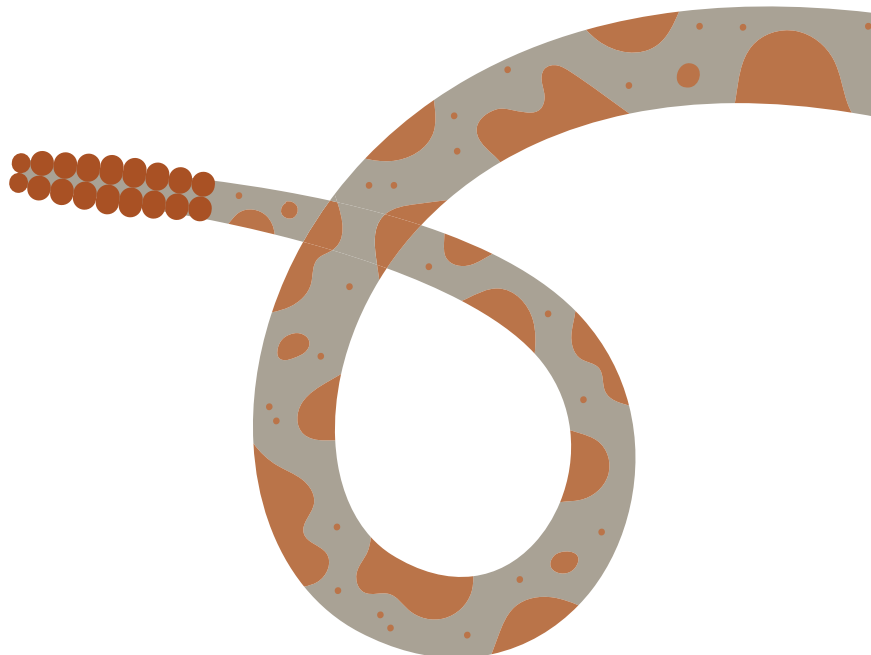
(b) 3 ft = 3 × 12 in = 36 in

$\frac{2}{3}$ ft = 8 in

$3\frac{2}{3}$ ft = 36 in + 8 in

= 44 in

Crotalus is _____ in long.



Do

1 Crotalus weighs $2\frac{1}{2}$ lb.

(a) How much does he weigh in pounds and ounces?

(b) How much does he weigh in ounces?



$$2 \text{ lb} = 2 \times 16 \text{ oz}$$
$$\frac{1}{2} \text{ lb} = \frac{1}{2} \times 16 \text{ oz}$$

2 Crotalus's rattle is 4 inches long. What fraction of his length is his rattle?

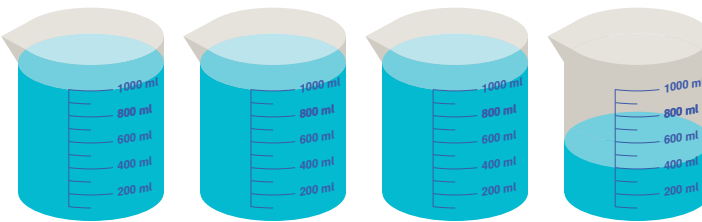
$$3\frac{2}{3} \text{ ft} = 44 \text{ in}$$

$$\frac{4}{44} = \frac{\square}{\square}$$

To express a part as a fraction of the whole, both the part and the whole have to be in the same units.



3



The total amount of water is $3\frac{2}{5}$ L. How many milliliters of water are there?

$$3 \text{ L} = 3 \times \square \text{ mL} = \square \text{ mL}$$

$$\frac{2}{5} \text{ L} = \frac{2}{5} \times \square \text{ mL} = \square \text{ mL}$$

$$3\frac{2}{5} \text{ L} = \square \text{ mL}$$

4 (a) $3\frac{1}{4}$ km = km m

(b) $3\frac{3}{4}$ qt = qt c

5 (a) $2\frac{3}{5}$ m = cm

(b) $1\frac{3}{4}$ days = h

(c) $2\frac{1}{2}$ c = fl oz

(d) $1\frac{3}{8}$ lb = oz

(e) $4\frac{7}{10}$ L = mL

(f) $2\frac{5}{12}$ h = min

(g) $3\frac{3}{5}$ min = s

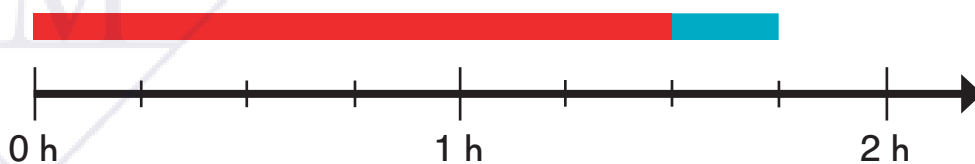
(h) $2\frac{1}{2}$ qt = pt

6 A tree is $5\frac{3}{5}$ meters tall. How tall is the tree in meters and centimeters?

7 Rowan ran $2\frac{1}{2}$ km on Saturday and $3\frac{3}{4}$ km on Sunday. How many meters did she run altogether?

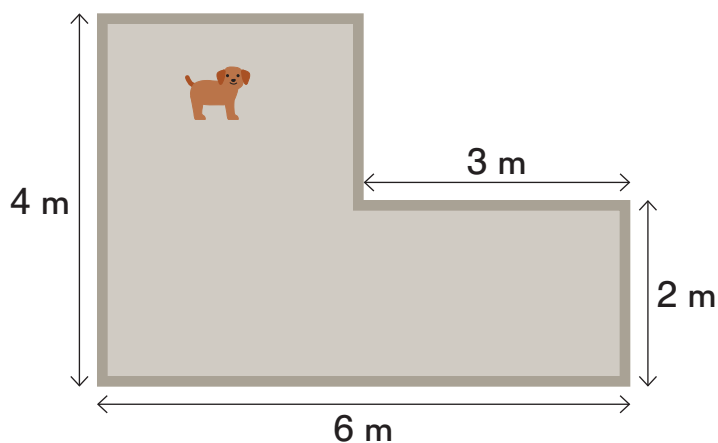
8 Emiliano had $3\frac{1}{4}$ c of milk. He used $1\frac{1}{2}$ c of milk to make a milk shake. How many fluid ounces of milk does he have left?

9 Ximena exercised for $1\frac{3}{4}$ hours. She spent the last 15 minutes of that time stretching. What fraction of her time exercising was spent stretching?



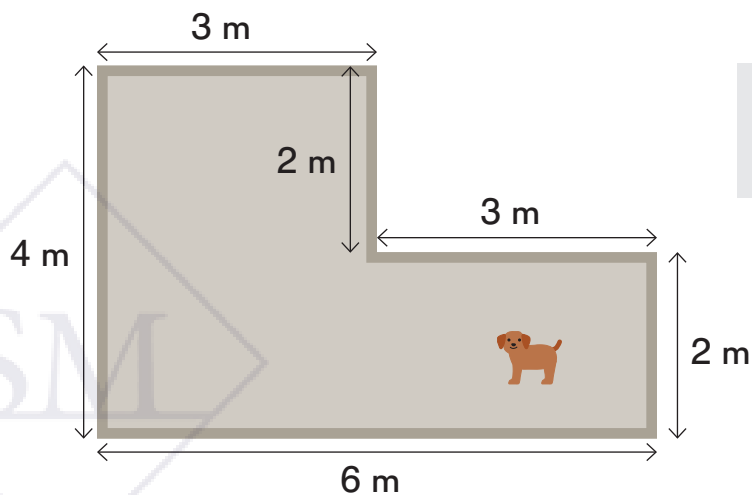
Think

The dimensions of a puppy pen at the pet shelter is shown here. What is the perimeter of the puppy pen?

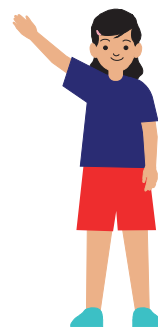


Learn

Method 1

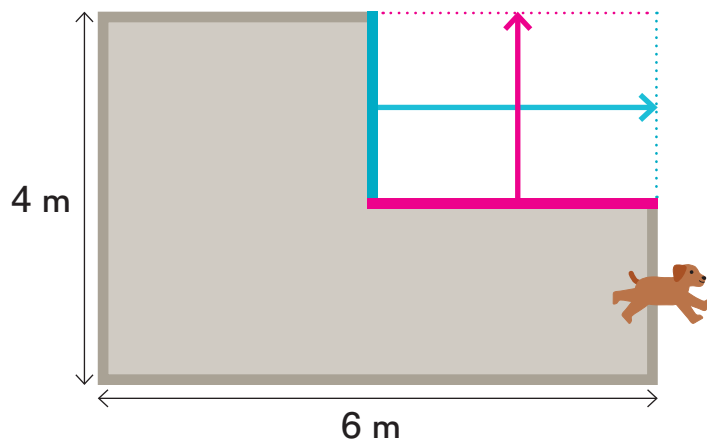


I found the lengths of all the sides and added them together.

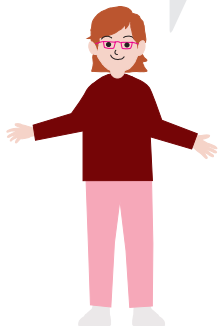


$$\text{Perimeter} = 4 + 3 + 2 + 3 + 2 + 6 = 20 \text{ m}$$

Method 2



I moved some sides out to form a large rectangle.
The area changes, but the perimeter does not.



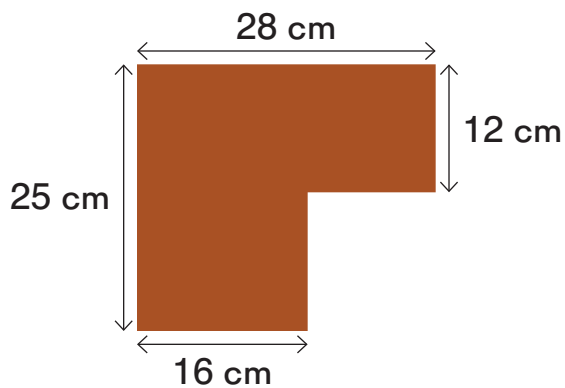
$$\text{Length} + \text{Width} = 6 + 4 = 10 \text{ m}$$

$$\text{Perimeter} = 2 \times 10 = 20 \text{ m}$$

The perimeter of the puppy pen is _____ m.

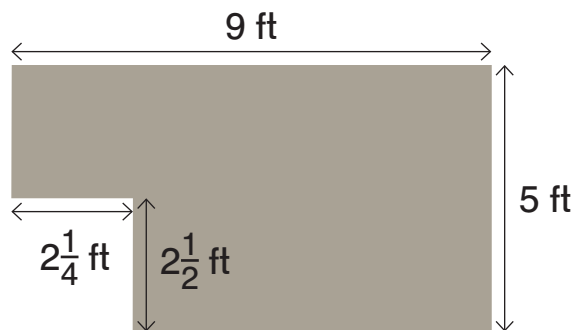
Do

- 1 Find the perimeter of the figure in meters and centimeters.

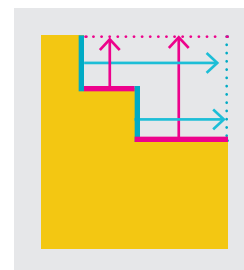
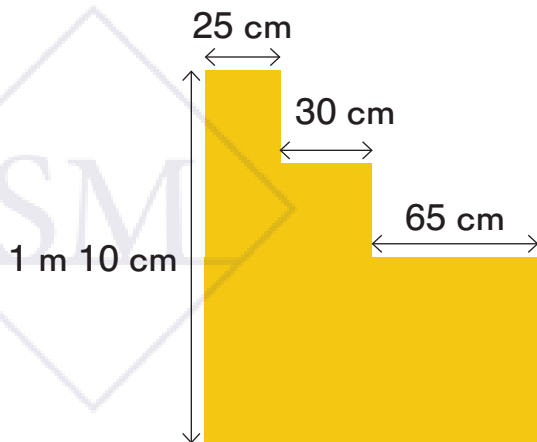


Which method has easier calculations in this case?

- 2 Find the perimeter of the figure.



- 3 Find the perimeter of the figure in meters and centimeters.



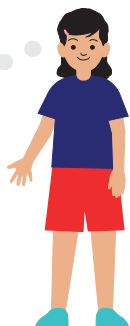
Think

The table below shows the amount of water Emma's pets require each day.

Animal	Water Needed Each Day in Liters
Dog	1
Rabbit	0.3
Guinea Pig	0.05

How much water does she need to give to her pets altogether in one day?
Express the amount as a decimal.

$$1 + \frac{3}{10} + \frac{5}{100} = ?$$



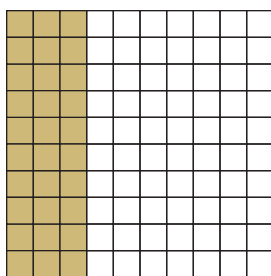
Learn

Method 1



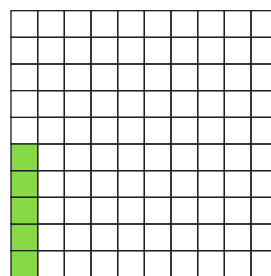
1

+



$$\frac{3}{10} = \frac{30}{100}$$

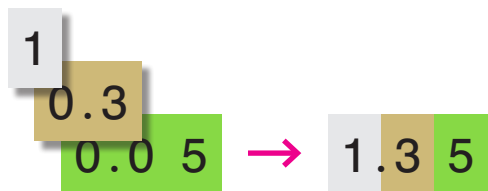
+



$$\frac{5}{100}$$

$$1 + \frac{3}{10} + \frac{5}{100} = 1 + \frac{30}{100} + \frac{5}{100} = 1\frac{35}{100} = 1.35$$

Method 2



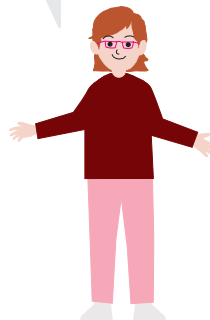
1.35 is read as **one point three five** or **one and thirty-five hundredths**.

$$1 + 0.3 + 0.05 = 1.35$$

Emma gives her pets L of water each day.

1	0.1 0.1 0.1	0.01 0.01 0.01 0.01 0.01
---	-------------	--------------------------

Ones	Tenths	Hundredths
1	3	5



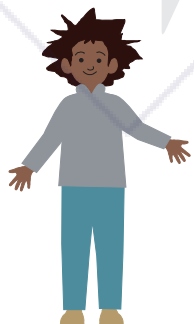
The digit 1 in 1.35 is in the **ones** place. Its value is 1.

The digit 3 in 1.35 is in the _____ place. Its value is 3 tenths or 0.3.

The digit 5 in 1.35 is in the _____ place. Its value is hundredths or 0.05.

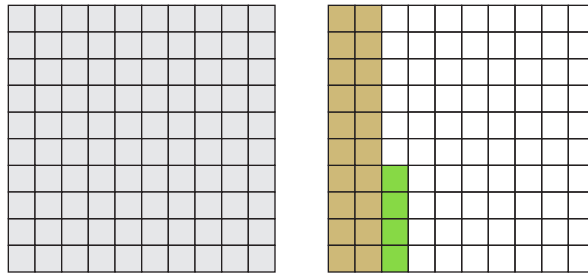
$$1.35 = 1 + 0.3 + 0.05$$

1 + 0.3 + 0.05 is 1.35 expressed in expanded form.

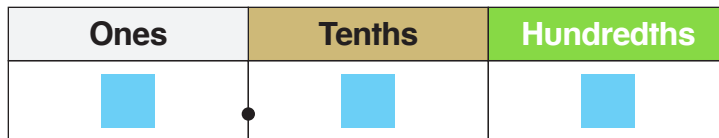
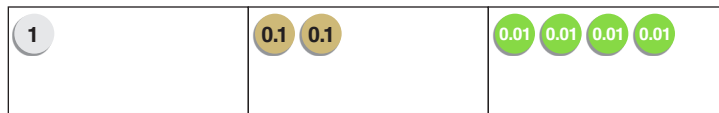


Do

1 (a)



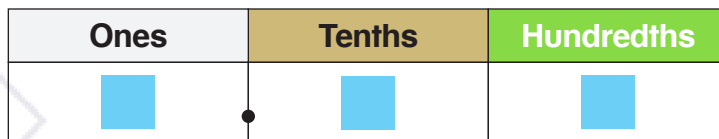
$$\frac{124}{100} = \frac{100}{100} + \frac{20}{100} + \frac{4}{100} = 1 + \frac{2}{10} + \frac{4}{100}$$



(b)



$$2\frac{6}{100} = 2 + \frac{6}{100}$$



2 ones + 0 tenths + 6 hundredths

Chapter 13

Addition and Subtraction of Decimals

Chicken Rice

- Chicken
- Cucumber
- Cilantro
- Ginger garlic paste
- Chili dipping sauce
- Soy sauce
- Rice
- Chicken broth

CHICKEN
\$9.50

GINGER GARLIC PASTE
\$4.99

CHILI SAUCE
\$3.89

CILANTRO PER BUNCH
\$2.75

SOY SAUCE
\$2.69

RICE
\$5.69
5 LB BAG

CHICKEN BROTH
\$1.99

CUCUMBER
\$1.25
EACH

How much will I pay for all of this food?

Lesson 1

Adding and Subtracting Tenths

1

Think

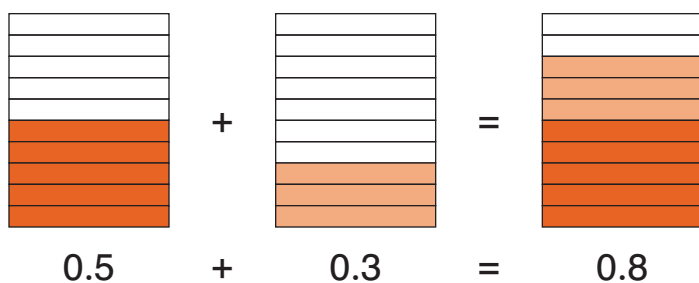
Sofia drank 0.5 L of juice. Alex drank 0.3 L of juice.

- (a) How much juice did they drink altogether?
- (b) How much more juice did Sofia drink than Alex?



Learn

(a) $0.5 + 0.3$

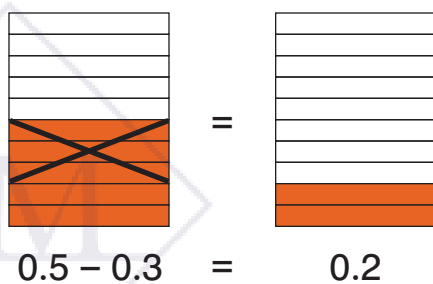


5 tenths + 3 tenths



They drank _____ L of juice altogether.

(b) $0.5 - 0.3$



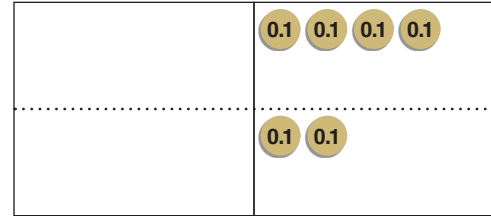
Sofia drank _____ L more juice than Alex.

Do

- 1 Add 0.4 and 0.2.

$$4 \text{ tenths} + 2 \text{ tenths} = \square \text{ tenths}$$

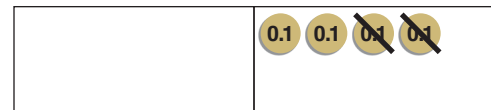
$$0.4 + 0.2 = \square$$



- 2 Subtract 0.2 from 0.4.

$$4 \text{ tenths} - 2 \text{ tenths} = \square \text{ tenths}$$

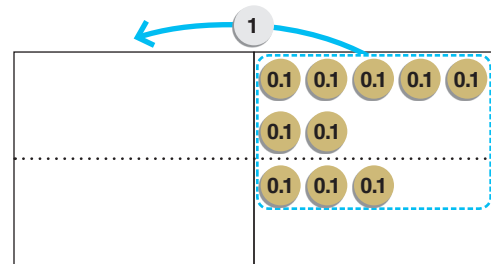
$$0.4 - 0.2 = \square$$



- 3 Add 0.7 and 0.3.

$$\begin{aligned} 7 \text{ tenths} + 3 \text{ tenths} &= 10 \text{ tenths} \\ &= \square \text{ one} \end{aligned}$$

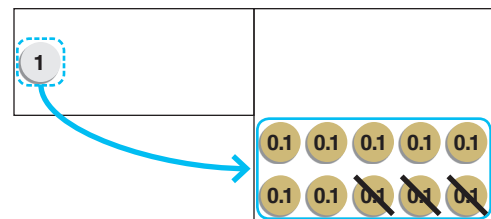
$$0.7 + 0.3 = \square$$



- 4 Subtract 0.3 from 1.

$$\begin{aligned} 1 \text{ one} - 3 \text{ tenths} &= 10 \text{ tenths} - 3 \text{ tenths} \\ &= \square \text{ tenths} \end{aligned}$$

$$1 - 0.3 = \square$$



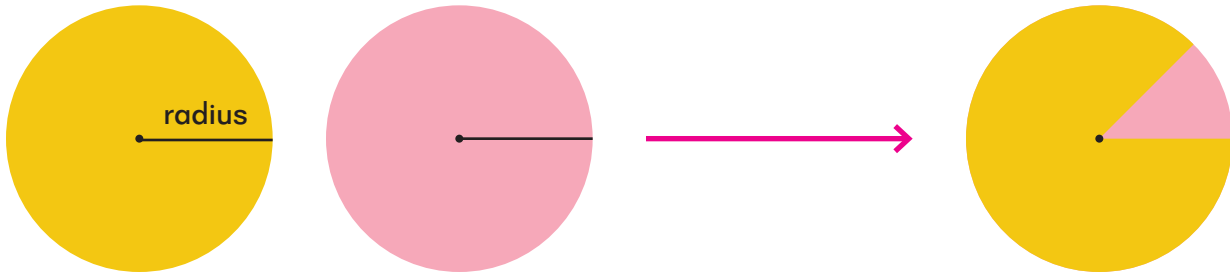
Lesson 1

The Size of Angles

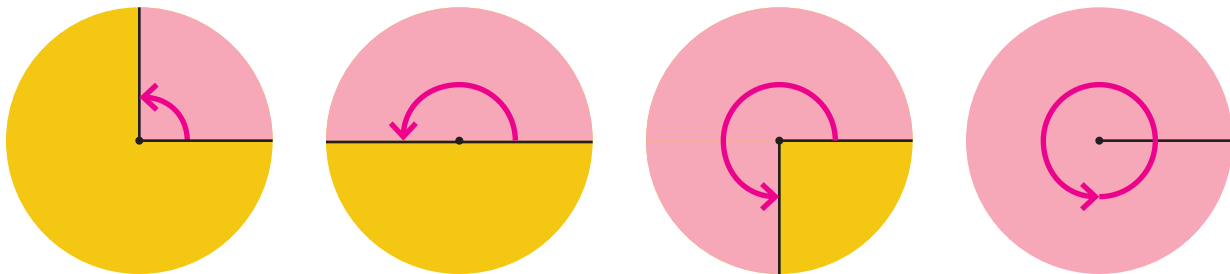
1

Think

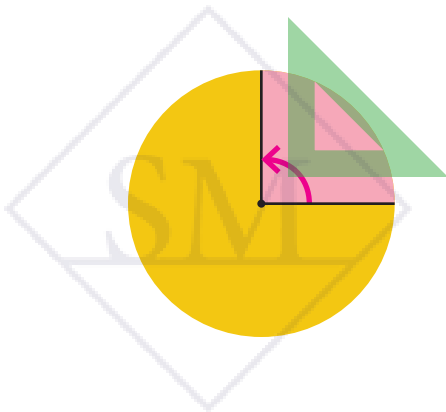
Use two circles. Cut a slit along the radius of each circle and then put them together to make different angles.



Turn one of the circles to make a quarter turn, a half turn, a three-quarter turn, and a full turn.



How many right angles are in each turn?

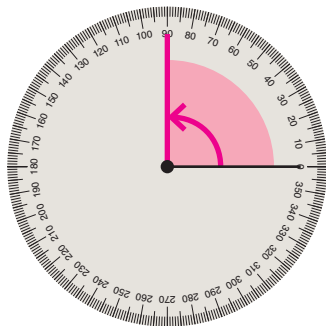


Use a set square to check.

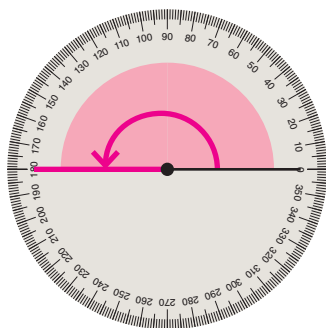


Learn

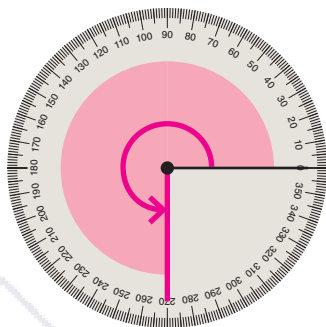
We measure angles in degrees. When a circle is divided into 360 equal size angles, the size of one angle is 1 degree. We write 1 degree as 1° .



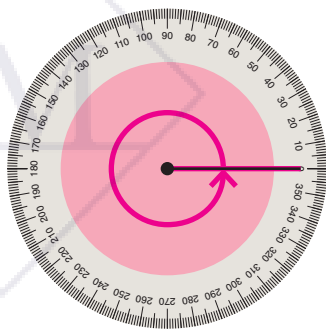
A quarter turn is 90° . A 90° angle is a right angle. Angles that measure between 0° and 90° are called **acute angles**.



A half turn is $2 \times 90^\circ = 180^\circ$. A 180° angle makes a straight line. Angles that measure between 90° and 180° are called **obtuse angles**. A 180° angle is called a **straight angle**.

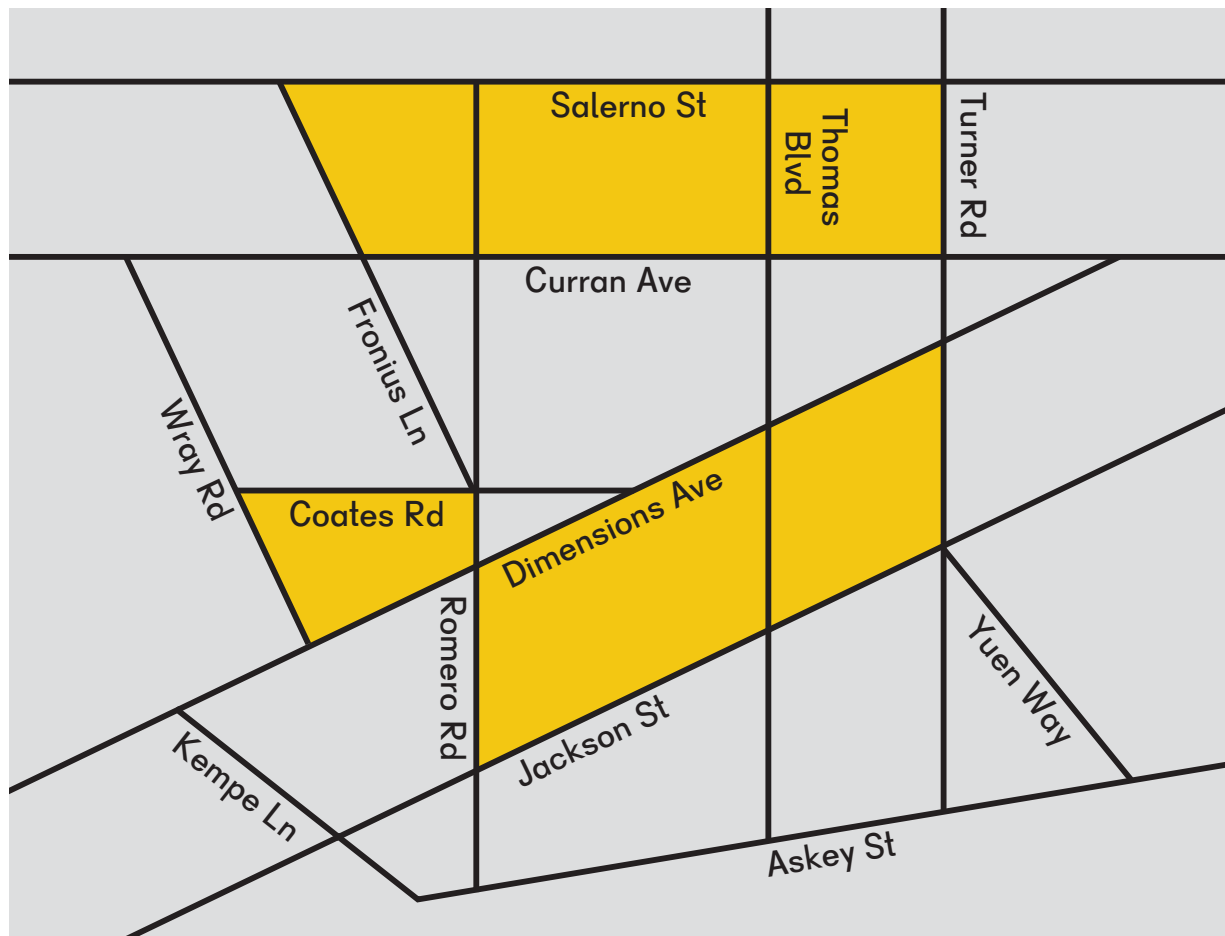


A three-quarter turn is $3 \times 90^\circ = 270^\circ$. Angles that measure between 180° and 360° are called **reflex angles**.



A full turn is $4 \times 90^\circ = 360^\circ$.

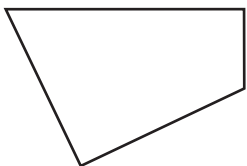
Think



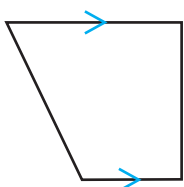
Look at the four-sided figures formed by the intersections of the streets.

- (a) Which figure has no parallel sides?
- (b) Which figures have at least one pair of parallel sides?
- (c) Which figures have two pairs of parallel sides?
- (d) Which figures have right angles?

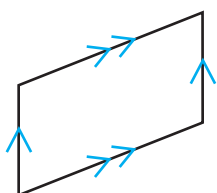
Learn



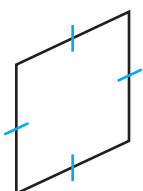
A quadrilateral is a closed shape with four straight sides.



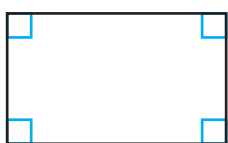
A **trapezoid** is a quadrilateral with at least one pair of parallel sides.



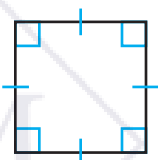
A **parallelogram** is a trapezoid with two pairs of parallel sides.



A **rhombus** is a parallelogram with four equal sides.



A rectangle is a parallelogram with four right angles.



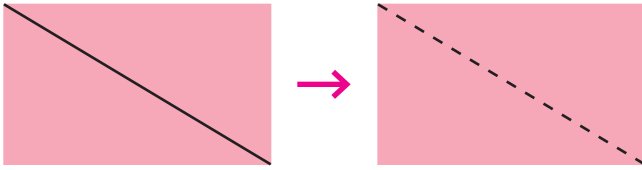
A square is a rhombus with four right angles.



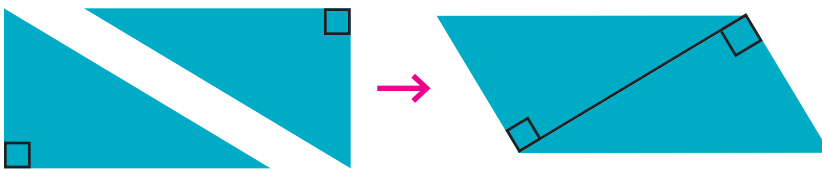
Find other trapezoids and parallelograms on the map.

Do

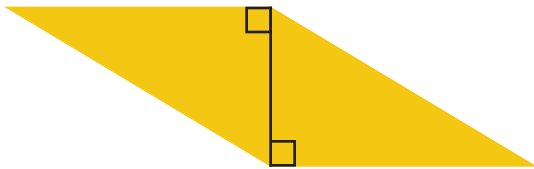
- 1 Draw a diagonal on a rectangular sheet of paper. Cut the paper along the diagonal.



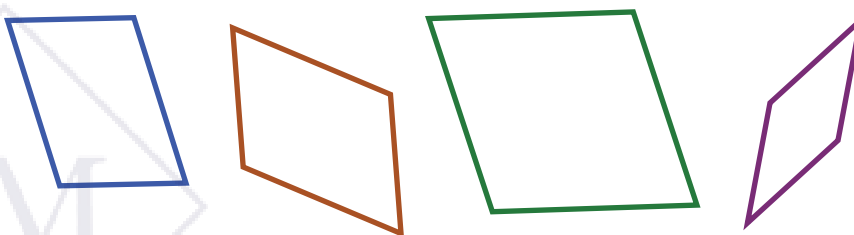
Put the two right triangles together to make a different parallelogram.



We can also make a parallelogram like this



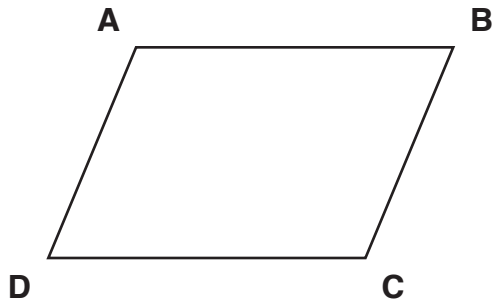
- 2 Which parallelograms below are rhombuses?



You can use a compass to see if the sides are the same length.

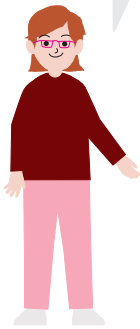


- 3 Compare the lengths of the sides of this parallelogram.



- (a) Which sides have the same length?
- (b) What can you say about the lengths of the opposite sides of a parallelogram?

Are opposite sides the same length for all trapezoids?



- 4 Identify and name the parallel sides of the parallelograms below.

