

Estimate and Measure

Choose the best metric unit. Use the benchmarks to help.

Benchmarks



1 mm is about
the thickness of
a dime



1 cm is about
the width of this
square



1 m is about
the width of a
door



1 km is about
10 soccer fields
in a row



1 g is about
the mass of a
paper clip



1 kg is about
the mass of a
pineapple



1 mL is about
20 drops of
water



1 L is about
a big bottle of
water

Circle the best unit to measure each one.

Example



length of a car

mm cm **m** km

1.



mass of a strawberry

g kg

2.



water in a bathtub

mL L

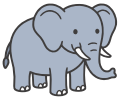
3.



length of a ladybug

mm cm m km

4.



mass of an elephant

g kg

5.



medicine in a spoon

mL L

6.



a train trip

mm cm m km

7.



width of a butterfly

mm cm m km

Write the best unit: mm, cm, m, km, g, kg, mL or L.

8. A new pencil is 19 _____ long.

9. Mia biked 6 _____ to the lake.

10. A melon's mass is 2 _____.

11. The fish tank holds 40 _____.

12. A nickel's mass is 5 _____.

13. The door is 2 _____ tall.

14. A juice box holds 200 _____.

15. A grain of rice is 6 _____ long.

Estimate and Measure

Estimate in centimeters. Then measure with the ruler.

How to

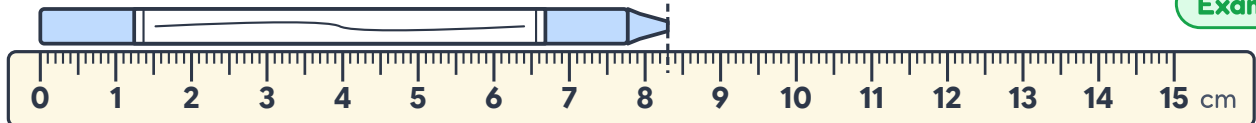
Cover the ruler with a strip of paper. Estimate the length.

Then uncover it. Measure to the nearest cm, then to the nearest mm.

1 cm

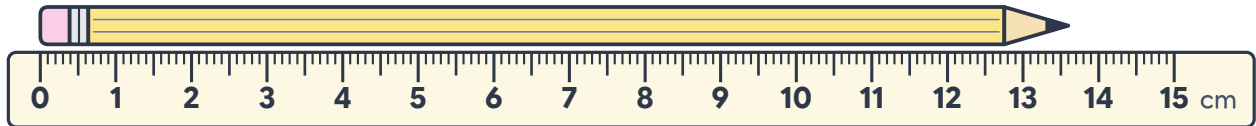


Example



Estimate: about 8 cm Nearest cm: 8 cm Nearest mm: 83 mm

1.



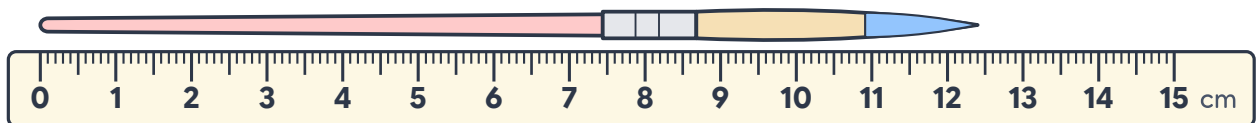
Estimate: about _____ cm Nearest cm: _____ cm Nearest mm: _____ mm

2.



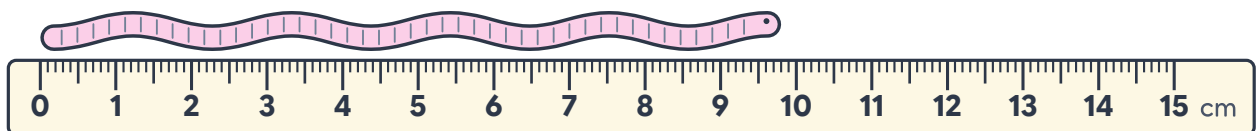
Estimate: about _____ cm Nearest cm: _____ cm Nearest mm: _____ mm

3.



Estimate: about _____ cm Nearest cm: _____ cm Nearest mm: _____ mm

4.



Estimate: about _____ cm Nearest cm: _____ cm Nearest mm: _____ mm

Use your measurements.

5. How much longer is the pencil than the crayon? _____ mm

6. The key and the worm lie end to end. How long are they together? _____ mm

Estimate and Measure

Estimate to the nearest inch. Then measure with the ruler.

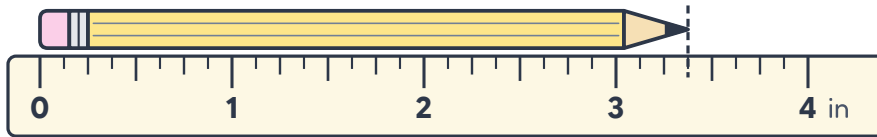
Benchmark

A quarter is about 1 inch across. So is this line.

Estimate first, with the ruler covered. Then measure.



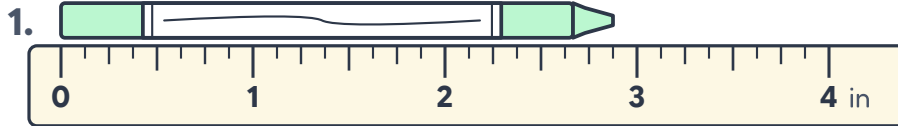
Measure to the nearest $\frac{1}{8}$ inch.



Example

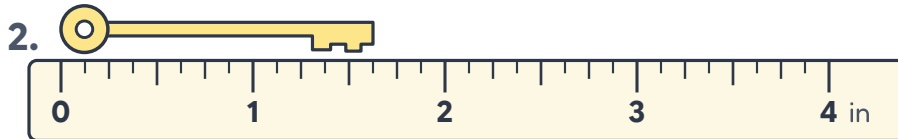
Estimate: 3 inches

Measure: 3 $\frac{3}{8}$ inches



Estimate: _____ inches

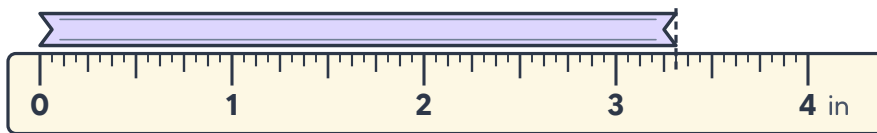
Measure: _____ inches



Estimate: _____ inches

Measure: _____ inches

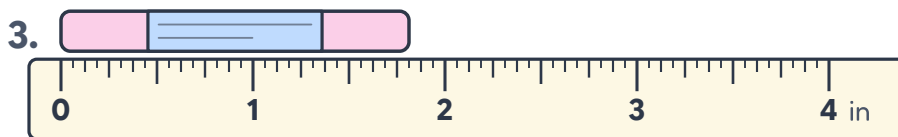
Measure to the nearest $\frac{1}{16}$ inch.



Example

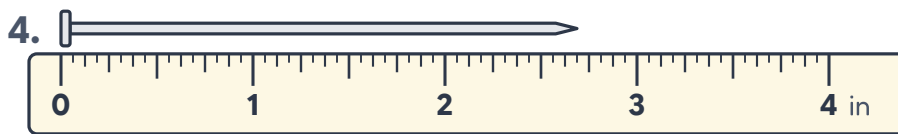
Estimate: 3 inches

Measure: 3 $\frac{5}{16}$ inches



Estimate: _____ inches

Measure: _____ inches



Estimate: _____ inches

Measure: _____ inches

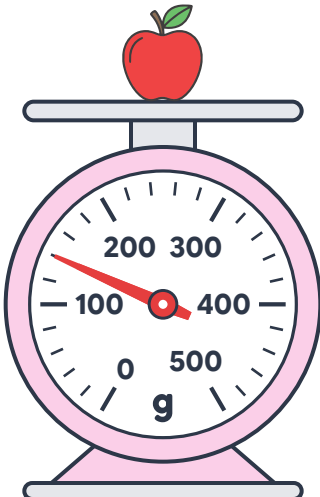
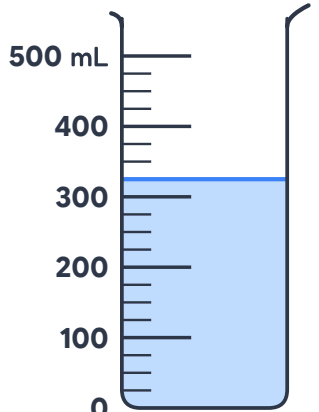
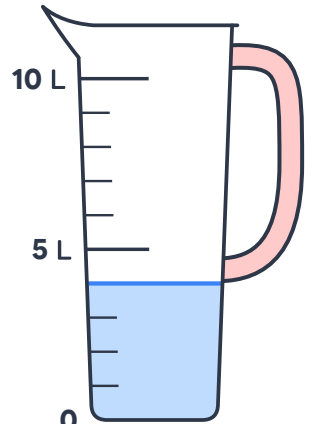
Use your measurements.

5. How much longer is the pencil than the key? _____ inches

Estimate and Measure

Estimate first. Then read the scale or the container.

Estimate to the nearest printed number. Then write the exact amount.

Example  About <u>100</u> g Exact: <u>140</u> g	1.  About _____ kg Exact: _____ kg	2.  About _____ mL Exact: _____ mL	3.  About _____ L Exact: _____ L
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Solve. Use the amounts above.

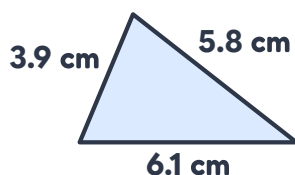
4. The apple on the scale and a 250 g orange go in a bag. What is their total mass? _____ g	5. A baker uses 2,500 g of the bag of flour on the scale. How many grams are left? _____ g
6. The water in the beaker is poured into 25 mL test tubes. How many tubes are filled? _____ tubes	7. The lemonade in the jug is poured into 250 mL glasses. How many glasses are filled? _____ glasses
8. A rope is 3 m long. Sam cuts off 85 cm. How long is the rope now? _____ cm	9. Each book has a mass of 600 g. What is the mass of 5 books in kilograms? _____ kg

Estimate and Measure

Estimate each perimeter. Tell why your estimate makes sense.

Round each side to the nearest centimeter. Add to estimate.

Example

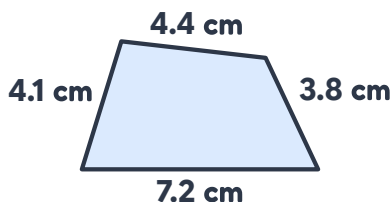


$$6 + 6 + 4$$

Estimate: 16 cm

Exact: 15.8 cm

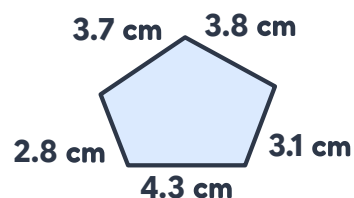
1.



Estimate: _____ cm

Exact: _____ cm

2.



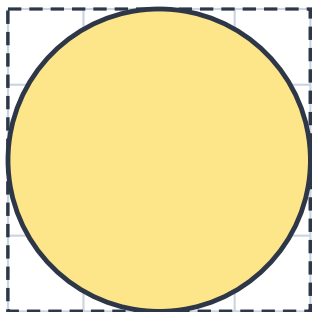
Estimate: _____ cm

Exact: _____ cm

Use the grid, or follow the edge with string and measure the string.

Example

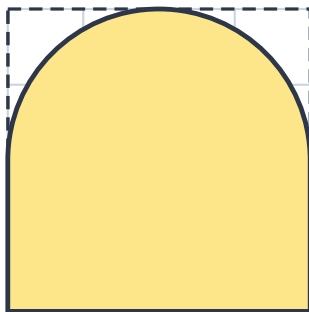
Circle



Dashed line: 16 cm

Estimate: about 13 cm

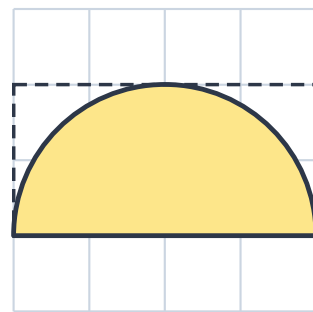
4. **Arch**



Dashed line: _____ cm

Estimate: about _____ cm

5. **Half circle**



Dashed line: _____ cm

Estimate: about _____ cm

String
ruler



Leo says the circle's perimeter is about 20 cm. Is he right? Explain.

Estimate and Measure

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1 km is about
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1 kg is about
the mass of a
pineapple



1 mL is about
20 drops of
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1 L is about
a big bottle of
water

Circle the best unit to measure each one.

Example



length of a car

mm cm **m** km

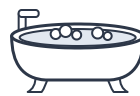
1.



mass of a strawberry

g kg

2.



water in a bathtub

mL L

3.



length of a ladybug

mm cm m km

4.



mass of an elephant

g kg

5.



medicine in a spoon

mL L

6.



a train trip

mm cm m km

7.



width of a butterfly

mm cm m km

Write the best unit: mm, cm, m, km, g, kg, mL or L.

8. A new pencil is 19 _____ long.

9. Mia biked 6 _____ to the lake.

10. A melon's mass is 2 _____.

11. The fish tank holds 40 _____.

12. A nickel's mass is 5 _____.

13. The door is 2 _____ tall.

14. A juice box holds 200 _____.

15. A grain of rice is 6 _____ long.

Estimate and Measure

Estimate in centimeters. Then measure with the ruler.

How to

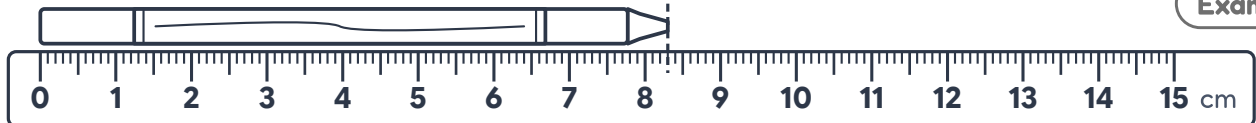
Cover the ruler with a strip of paper. Estimate the length.

Then uncover it. Measure to the nearest cm, then to the nearest mm.

1 cm

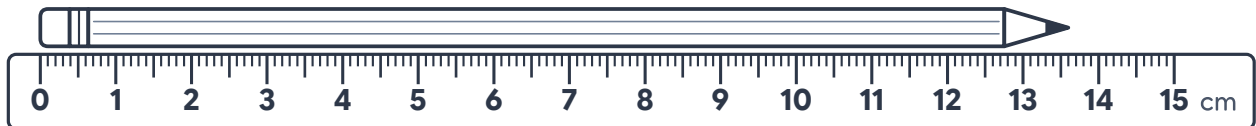


Example



Estimate: about 8 cm Nearest cm: 8 cm Nearest mm: 83 mm

1.



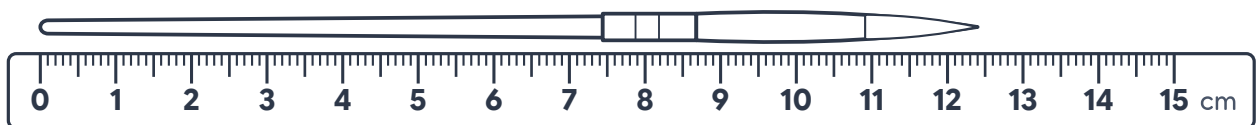
Estimate: about _____ cm Nearest cm: _____ cm Nearest mm: _____ mm

2.



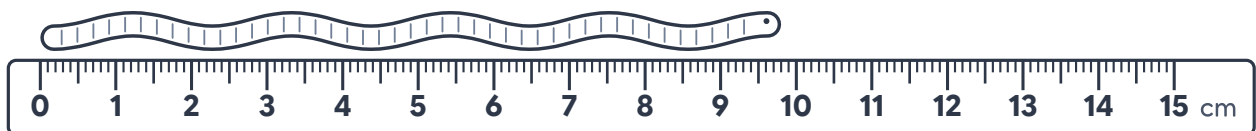
Estimate: about _____ cm Nearest cm: _____ cm Nearest mm: _____ mm

3.



Estimate: about _____ cm Nearest cm: _____ cm Nearest mm: _____ mm

4.



Estimate: about _____ cm Nearest cm: _____ cm Nearest mm: _____ mm

Use your measurements.

5. How much longer is the pencil than the crayon? _____ mm

6. The key and the worm lie end to end. How long are they together? _____ mm

Estimate and Measure

Estimate to the nearest inch. Then measure with the ruler.

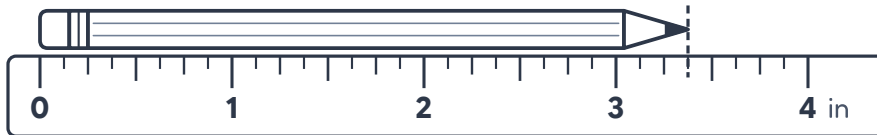
Benchmark

A quarter is about 1 inch across. So is this line.

Estimate first, with the ruler covered. Then measure.



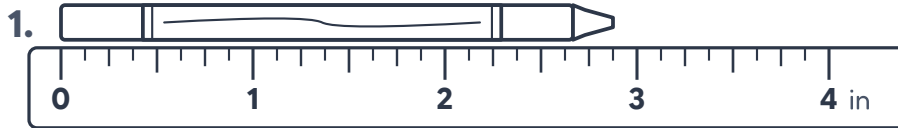
Measure to the nearest $\frac{1}{8}$ inch.



Example

Estimate: 3 inches

Measure: $3\frac{3}{8}$ inches



Estimate: _____ inches

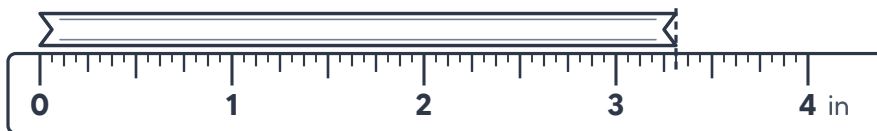
Measure: _____ inches



Estimate: _____ inches

Measure: _____ inches

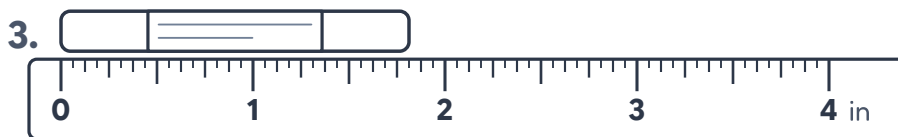
Measure to the nearest $\frac{1}{16}$ inch.



Example

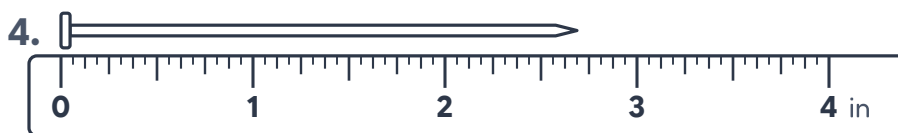
Estimate: 3 inches

Measure: $3\frac{5}{16}$ inches



Estimate: _____ inches

Measure: _____ inches



Estimate: _____ inches

Measure: _____ inches

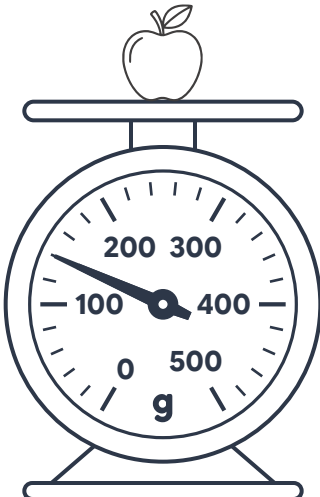
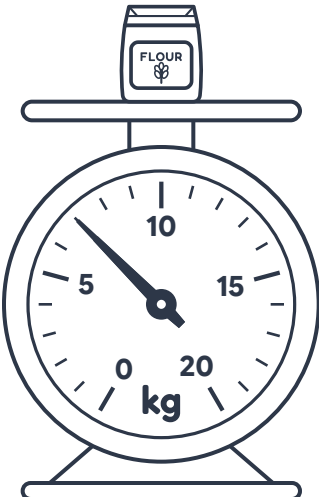
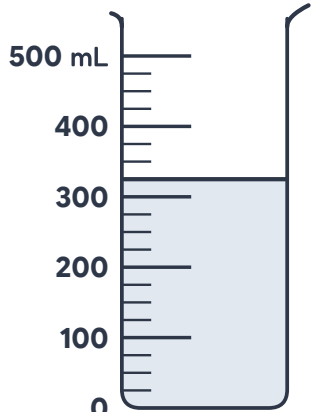
Use your measurements.

5. How much longer is the pencil than the key? _____ inches

Estimate and Measure

Estimate first. Then read the scale or the container.

Estimate to the nearest printed number. Then write the exact amount.

Example  About <u>100</u> g Exact: <u>140</u> g	1.  About _____ kg Exact: _____ kg	2.  About _____ mL Exact: _____ mL	3.  About _____ L Exact: _____ L
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Solve. Use the amounts above.

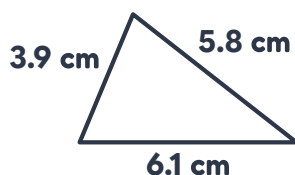
4. The apple on the scale and a 250 g orange go in a bag. What is their total mass? _____ g	5. A baker uses 2,500 g of the bag of flour on the scale. How many grams are left? _____ g
6. The water in the beaker is poured into 25 mL test tubes. How many tubes are filled? _____ tubes	7. The lemonade in the jug is poured into 250 mL glasses. How many glasses are filled? _____ glasses
8. A rope is 3 m long. Sam cuts off 85 cm. How long is the rope now? _____ cm	9. Each book has a mass of 600 g. What is the mass of 5 books in kilograms? _____ kg

Estimate and Measure

Estimate each perimeter. Tell why your estimate makes sense.

Round each side to the nearest centimeter. Add to estimate.

Example



$$6 + 6 + 4$$

Estimate: 16 cm

Exact: 15.8 cm

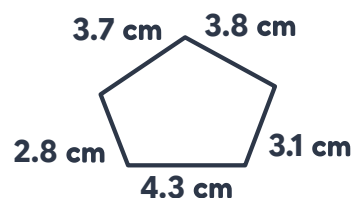
1.



Estimate: _____ cm

Exact: _____ cm

2.



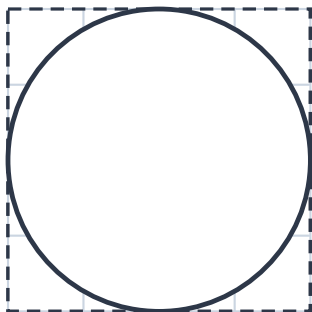
Estimate: _____ cm

Exact: _____ cm

Use the grid, or follow the edge with string and measure the string.

Example

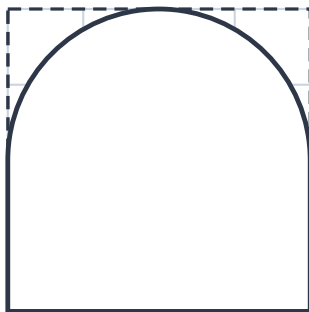
Circle



Dashed line: 16 cm

Estimate: about 13 cm

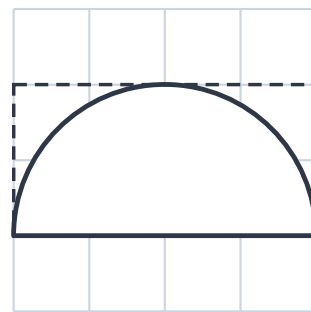
4. Arch



Dashed line: _____ cm

Estimate: about _____ cm

5. Half circle



Dashed line: _____ cm

Estimate: about _____ cm

String
ruler



Leo says the circle's perimeter is about 20 cm. Is he right? Explain.

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Choose the best metric unit. Use the benchmarks to help.

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1 mm is about
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1 cm is about
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1 m is about
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1 g is about
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1 kg is about
the mass of a
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1 mL is about
20 drops of
water



1 L is about
a big bottle of
water

Circle the best unit to measure each one.

Example



length of a car

mm cm **m** km

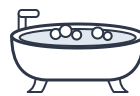
1.



mass of a strawberry

g kg

2.



water in a bathtub

mL **L**

3.



length of a ladybug

mm cm m km

4.



mass of an elephant

g **kg**

5.



medicine in a spoon

mL L

6.



a train trip

mm cm m **km**

7.



width of a butterfly

mm **cm** m km

Write the best unit: mm, cm, m, km, g, kg, mL or L.

8. A new pencil is 19 **cm** long.

9. Mia biked 6 **km** to the lake.

10. A melon's mass is 2 **kg**.

11. The fish tank holds 40 **L**.

12. A nickel's mass is 5 **g**.

13. The door is 2 **m** tall.

14. A juice box holds 200 **mL**.

15. A grain of rice is 6 **mm** long.

Estimate and Measure

Estimate in centimeters. Then measure with the ruler.

How to

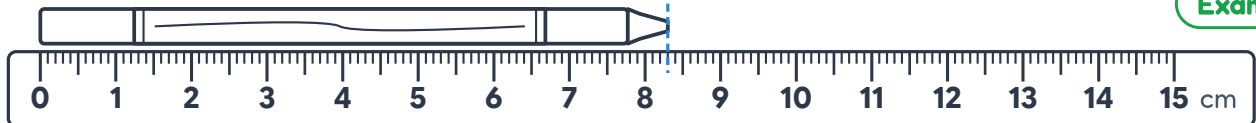
Cover the ruler with a strip of paper. Estimate the length.

Then uncover it. Measure to the nearest cm, then to the nearest mm.

1 cm

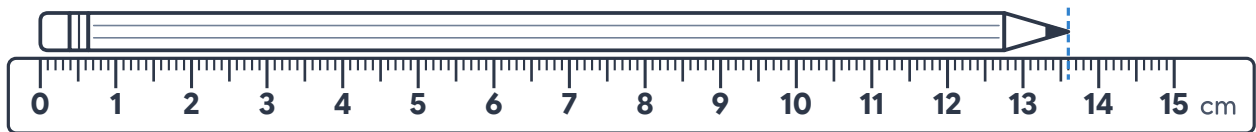


Example



Estimate: about 8 cm Nearest cm: 8 cm Nearest mm: 83 mm

1.



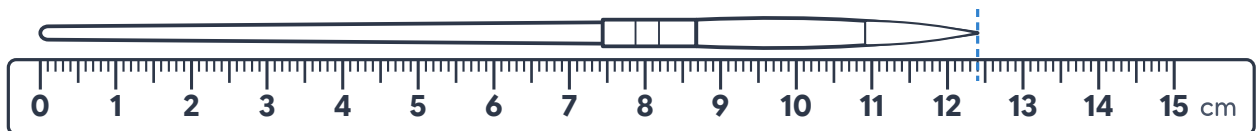
Estimate: about 14 cm Nearest cm: 14 cm Nearest mm: 136 mm

2.



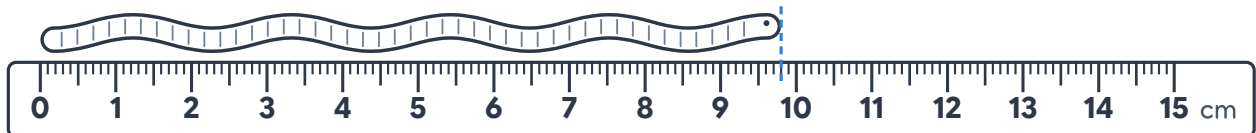
Estimate: about 6 cm Nearest cm: 6 cm Nearest mm: 57 mm

3.



Estimate: about 12 cm Nearest cm: 12 cm Nearest mm: 124 mm

4.



Estimate: about 10 cm Nearest cm: 10 cm Nearest mm: 98 mm

Use your measurements.

Estimates on this key are samples.

5. How much longer is the pencil than the crayon? 53 mm

6. The key and the worm lie end to end. How long are they together? 155 mm

Estimate and Measure

Estimate to the nearest inch. Then measure with the ruler.

Benchmark

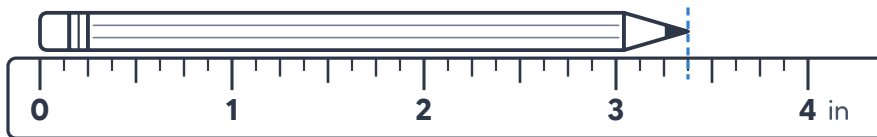
A quarter is about 1 inch across. So is this line.

Estimate first, with the ruler covered. Then measure.



Measure to the nearest $\frac{1}{8}$ inch.

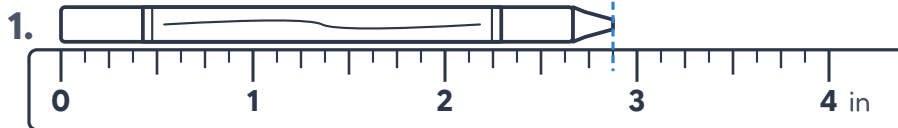
Estimates on this key are samples.



Example

Estimate: 3 inches

Measure: $3\frac{3}{8}$ inches



Estimate: 3 inches

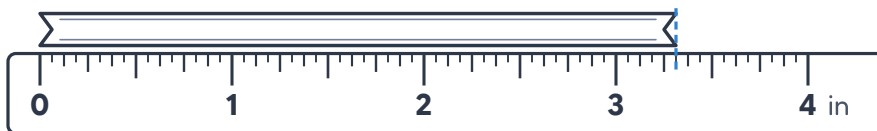
Measure: $2\frac{7}{8}$ inches



Estimate: 2 inches

Measure: $1\frac{5}{8}$ inches

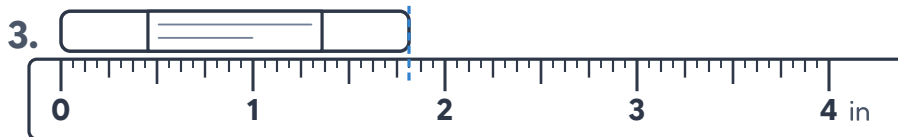
Measure to the nearest $\frac{1}{16}$ inch.



Example

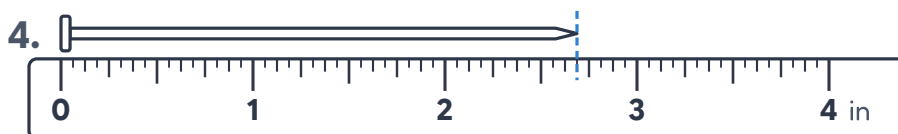
Estimate: 3 inches

Measure: $3\frac{5}{16}$ inches



Estimate: 2 inches

Measure: $1\frac{13}{16}$ inches



Estimate: 3 inches

Measure: $2\frac{11}{16}$ inches

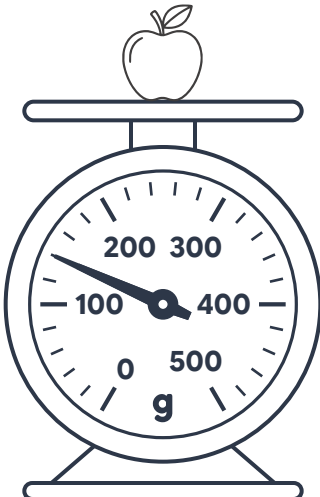
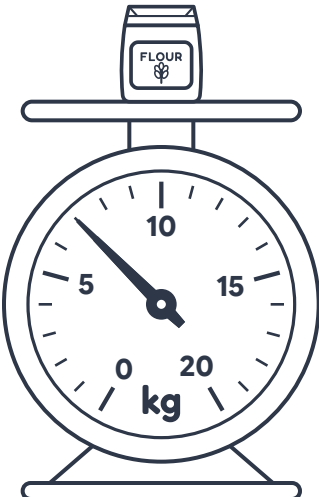
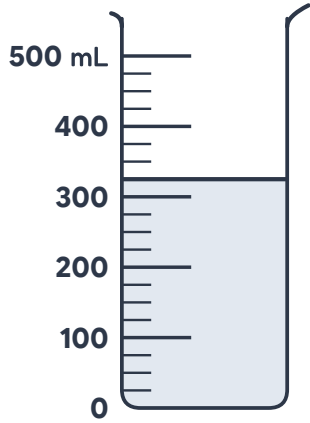
Use your measurements.

5. How much longer is the pencil than the key? $1\frac{3}{4}$ inches

Estimate and Measure

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Example  About <u>100</u> g Exact: <u>140</u> g	1.  About <u>5</u> kg Exact: <u>7</u> kg	2.  About <u>300</u> mL Exact: <u>325</u> mL	3.  About <u>5</u> L Exact: <u>4</u> L
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Solve. Use the amounts above.

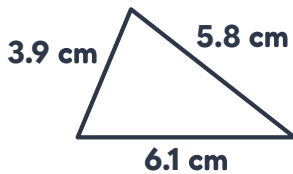
4. The apple on the scale and a 250 g orange go in a bag. What is their total mass? <u>390</u> g	5. A baker uses 2,500 g of the bag of flour on the scale. How many grams are left? <u>4,500</u> g
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8. A rope is 3 m long. Sam cuts off 85 cm. How long is the rope now? <u>215</u> cm	9. Each book has a mass of 600 g. What is the mass of 5 books in kilograms? <u>3</u> kg

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Estimate each perimeter. Tell why your estimate makes sense.

Round each side to the nearest centimeter. Add to estimate.

Example

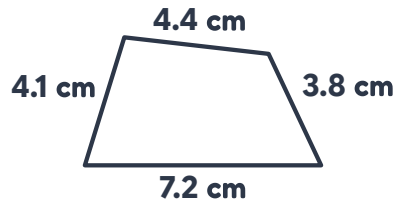


$$6 + 6 + 4$$

Estimate: 16 cm

Exact: 15.8 cm

1.

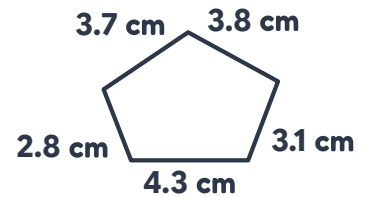


$$7 + 4 + 4 + 4$$

Estimate: 19 cm

Exact: 19.5 cm

2.



$$4 + 3 + 4 + 4 + 3$$

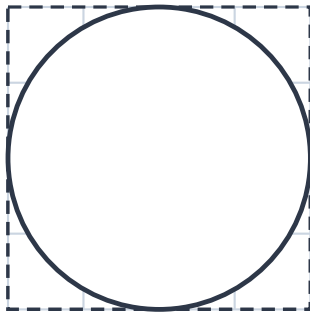
Estimate: 18 cm

Exact: 17.7 cm

Use the grid, or follow the edge with string and measure the string.

Example

Circle

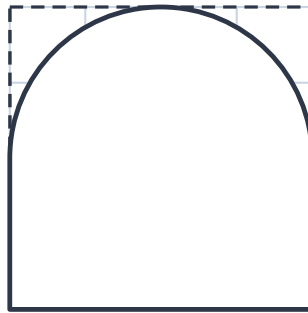


Dashed line: 16 cm

Estimate: about 13 cm

4. Arch

13 to 15 is fine

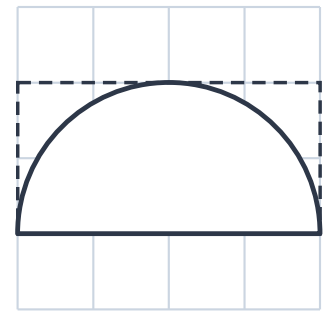


Dashed line: 16 cm

Estimate: about 14 cm

5. Half circle

9 to 11 is fine



Dashed line: 12 cm

Estimate: about 10 cm

String
ruler



Leo says the circle's perimeter is about 20 cm. Is he right? Explain.

Sample: No. The circle fits inside a square with a perimeter of 16 cm, so its perimeter is less than 16 cm. About 13 cm makes sense.