"I got you ten roses. I believe strong relationships are based on the metric system."

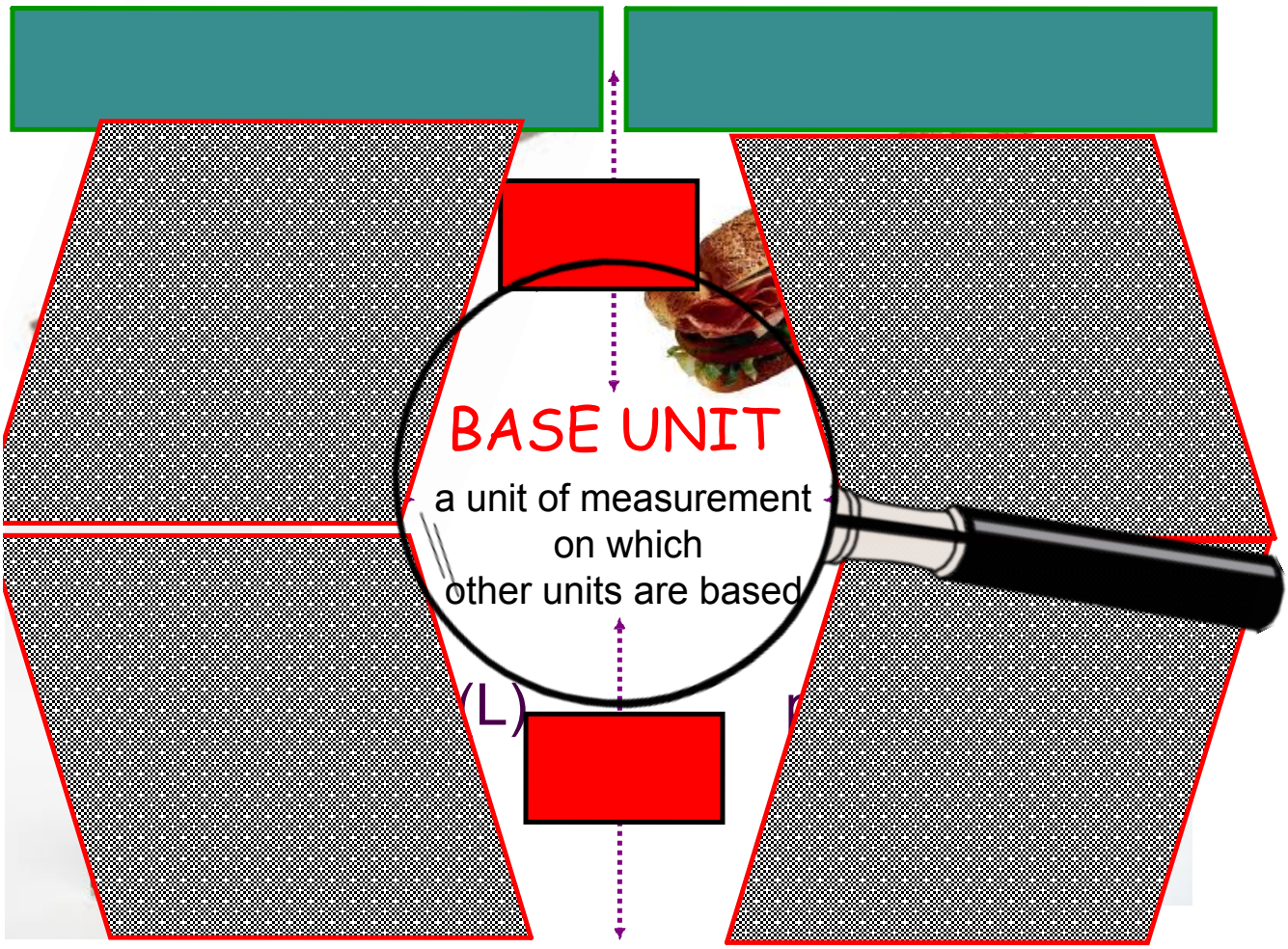
International System of Units (SI)

Système Internationale d'Unités

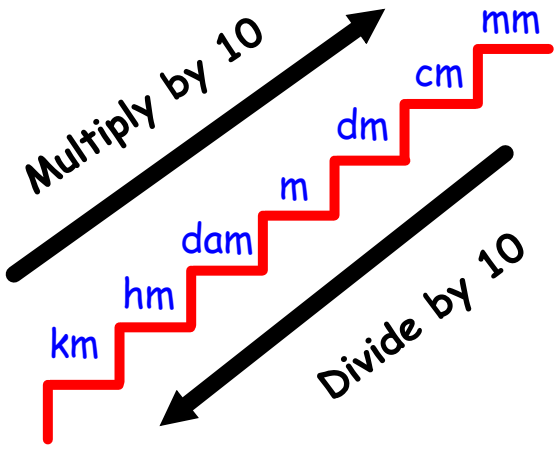
"metric"

Imperial System

"standard"


BASE UNIT
a unit of measurement
on which
other units are based
(L)

The SI is a decimal system based on multiples of 10



a) 130 cm = _____ m

b) _____ g = 150 mg

c) 60 L = _____ml

d) 3.25 km = _____cm

e) _____ g = 0.68 kg

km hm dam m dm cm mm

kl hl dal L dl cl ml

kg hg dag g dg cg mg

Meter (Metre in UK)

The length of this guitar
is about **1 meter**:

Kilogram

This gold bar has a
mass of **1 kilogram**.

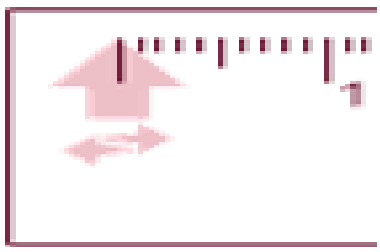
The Imperial system is NOT a decimal system

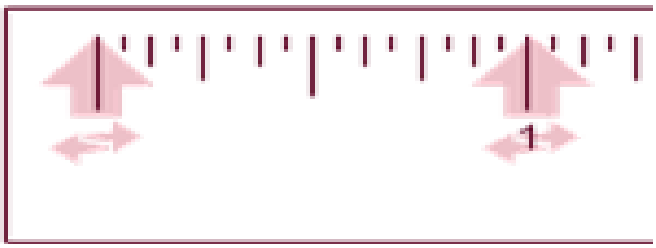
Each group of units
has a particular relationship.

Some Common Imperial Units

Length	
Unit	*Abbreviation*
inch	in or ″
foot	ft or ′
yard	yd
mile	mi

Take a closer look!!





Test drive!!

Find the measurements of your desk in imperial units.

Your mission!!

With your partner...

Determine the length of the following items:

1. Small red brick
2. Larger brick on the wall
3. Height of a door handle
4. Tile on the floor.
5. Five other items in the lobby area only!!

Once you are finished... take a seat in the lobby.

For every item please sketch the item and label the dimensions

---

Challenge another group to measure your five items...
do you get the same measurements?

Each group of units
has a particular relationship.

inch
foot
yard
mile

12 in = 1 foot

3 feet = 1 yard

1760 yards = 1 mile

Imperial CONVERSIONS

Conversion Factor

$$\text{Number} \times \frac{\text{units you want}}{\text{units you have}}$$

Imperial CONVERSIONS

Convert 240" to feet

Conversion Factor = $\frac{\quad}{\quad}$

= $\frac{\quad}{\quad}$

= $\frac{\quad}{\quad}$

Number x Conversion Factor

x

=

=

You try: Perform the following conversions:

a) 36 inches to feet

b) 10 yards to feet

c) 5000 yards to miles

Perform the following conversions:

a) 36 inches to feet

Conversion Factor

want / have

$\frac{\text{feet}}{\text{inches}}$

$\frac{1}{12}$

$36 \times \frac{1}{12}$

$\frac{36}{12}$

3'

b) 10 yards to feet

Conversion Factor

want
have

$\frac{\text{feet}}{\text{yards}}$

$\frac{3}{1}$

$$10 \times \frac{3}{1}$$

30'

c) 5000 yards to miles

Conversion Factor

want / have

$\frac{\text{miles}}{\text{yards}}$

$5000 \times \frac{1}{1760}$

$\frac{5000}{1760}$

2.84 mi

Can you see the difference?

"Four and one half inches."

$$4\frac{1}{2}"$$

$$4'\frac{1}{2}"$$

"Four FEET and one half inches.

Convert $4'\frac{1}{2}''$ to inches

Number x $\frac{\text{want}}{\text{have}}$

$4 \times \frac{\text{inches}}{\text{feet}}$

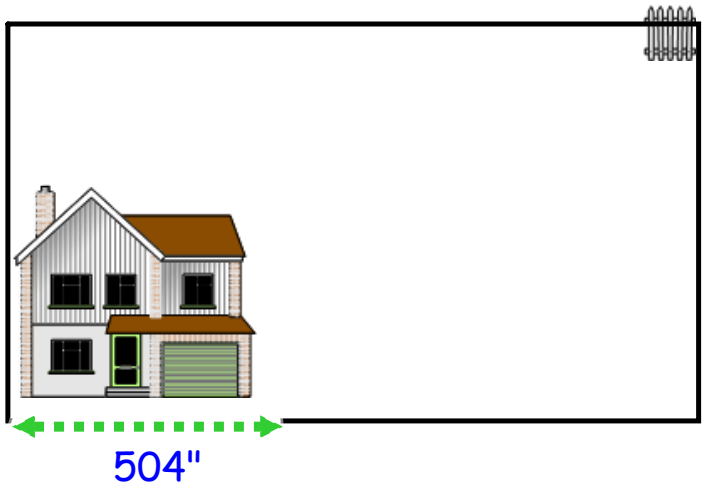
$4 \times \frac{12}{1}$

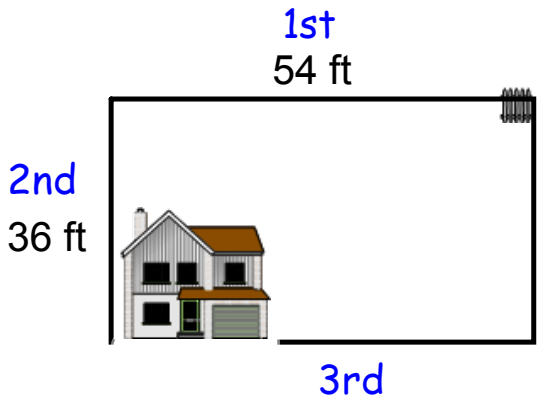
$= 48''$

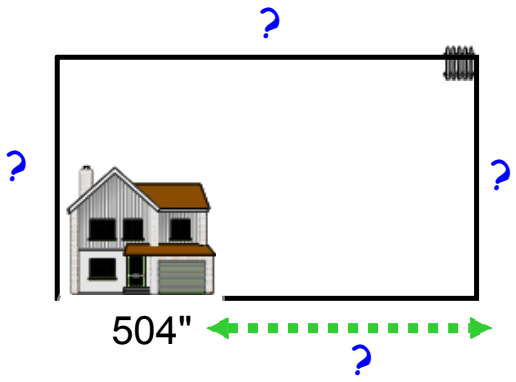
$48\frac{1}{2}''$

Kiri needs to replace the wooden fence that surrounds her yard. She measured her property, and it is 54 feet wide and 36 feet deep. There is no fence in front of her house, and the gap in the fence at the front of the property is 504 inches, as shown in the diagram.

Label the diagram below in inches.







1st

Number x $\frac{\text{inches}}{\text{feet}}$

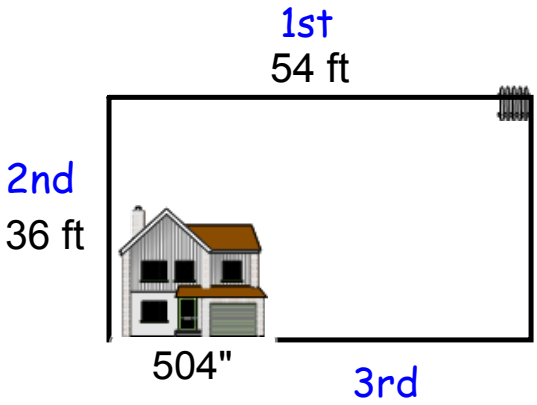
$= 54 \times \frac{12}{1}$

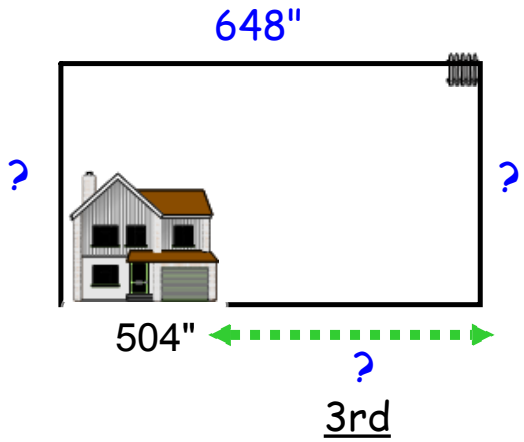
$= 648$

$= 648$ inches

2nd

3rd





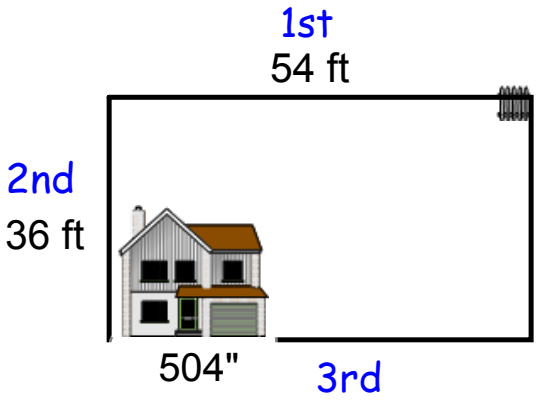
1st

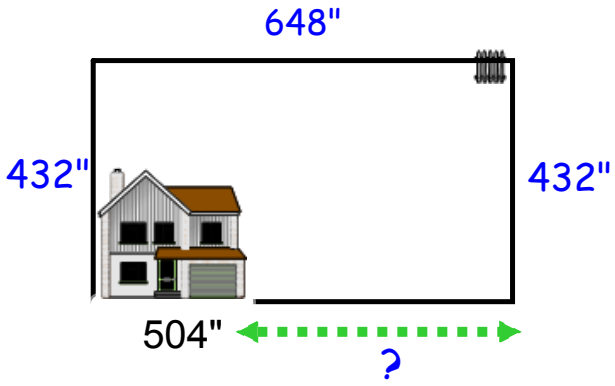
$$\text{Number} \times \frac{\text{inches}}{\text{feet}} = 54 \times \frac{12}{1} = \frac{648}{1} = 648 \text{ inches}$$

2nd

$$\text{Number} \times \frac{\text{inches}}{\text{feet}} = 36 \times \frac{12}{1} = \frac{432}{1} = 432 \text{ inches}$$

3rd





1st

$$\text{Number} \times \frac{\text{inches}}{\text{feet}} = 54 \times \frac{12}{1}$$

$$= \frac{648}{1}$$

$$= 648 \text{ inches}$$

2nd

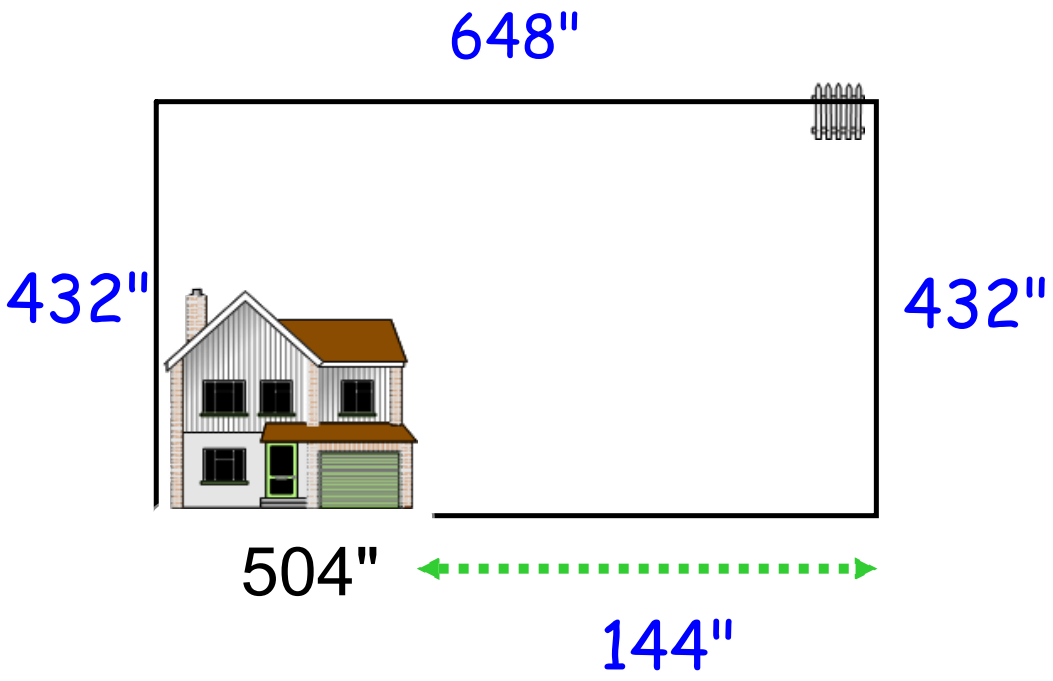
$$\text{Number} \times \frac{\text{inches}}{\text{feet}} = 36 \times \frac{12}{1}$$

$$= \frac{432}{1}$$

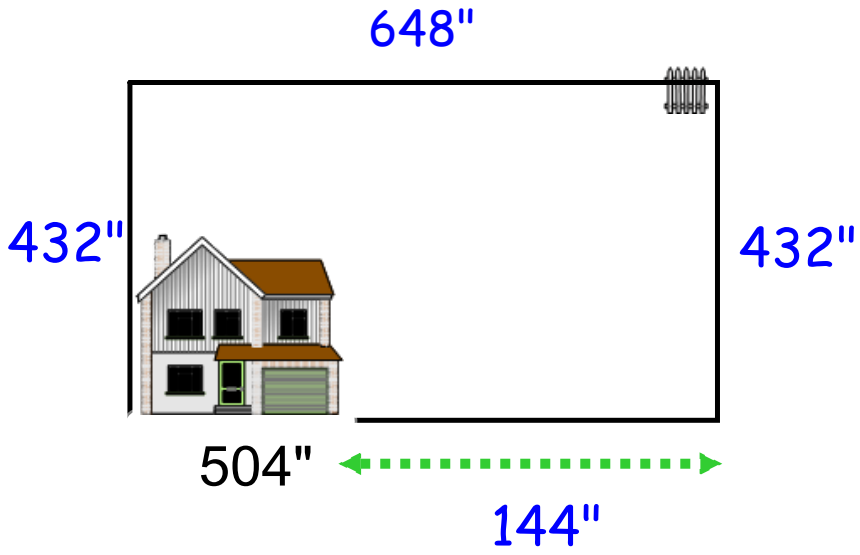
$$= 432 \text{ inches}$$

3rd

$$648 - 504 = 144"$$

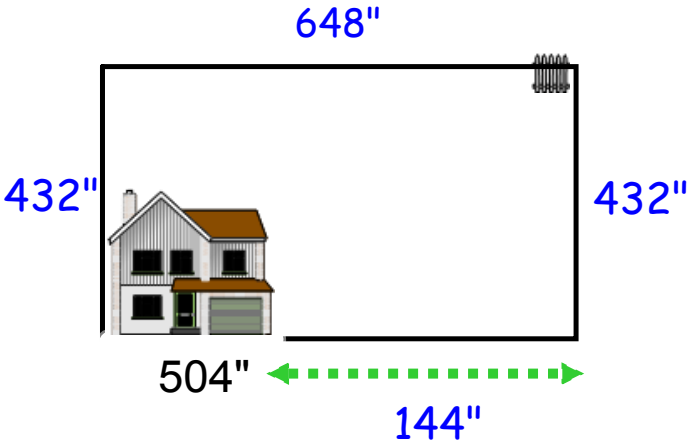

648"
432"
432"
504"
144"

Determine the distance required to fence.

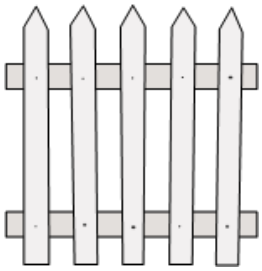


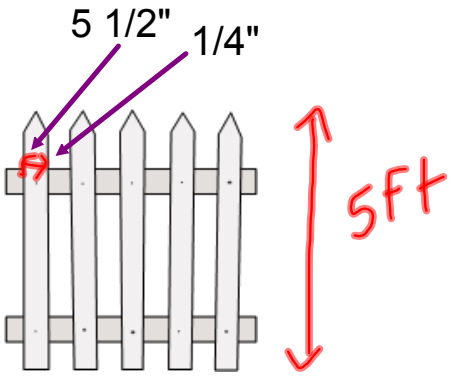
$$432" + 648" + 432" + 144" = 1656"$$

Kiri plans to replace the existing fence pickets with 5-foot-long cedar boards placed vertically. The boards are 5 1/2 inches wide and will be spaced 1/4 inch apart.



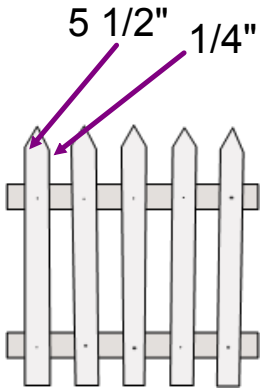
Label the fence below.





Kiri plans to replace the existing fence pickets with 5-foot-long cedar boards placed vertically. The boards are 5 1/2 inches wide and will be spaced 1/4 inch apart.

How many cedar boards are required?



1/2 + 1/4
= 2/4 + 1/4
= 3/4

Board + Space
= 5 1/2" + 1/4"
= 5 3/4"
= 5.75"

1656 / 5.75 = 288 Boards

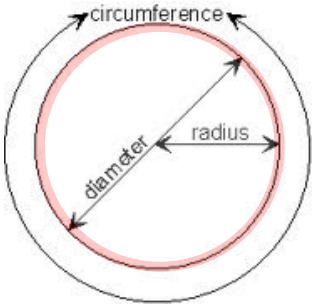
How Many Pints in a Gallon?

1 Gallon =

4 Quarts 8 Pints 16 Cups

Page 151
Questions 1 to 6
as well as #8

Hang on there...
other than perimeter
you will need to remember
another formula
to complete the assigned questions.



$$C = \pi d$$

$$C = 2\pi r$$