

March 26, 2015 5th 6th

Starter

① What is 18% of 40? ② 35 is 75% of what?

$$\frac{n}{40} = \frac{18}{100}$$
$$\frac{100n}{100} = \frac{120}{100}$$
$$n = 7.2$$

$$\frac{35}{n} = \frac{75}{100}$$
$$\frac{75n}{75} = \frac{3500}{75}$$
$$n = 46.7$$

③ 48 is what percent of 64?

$$\frac{48}{64} = \frac{p}{100}$$
$$\frac{64p}{64} = \frac{4800}{64}$$
$$p = 75\%$$

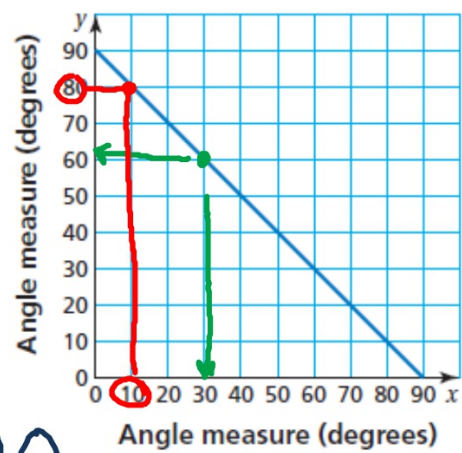
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3/26 Complementary / Supplementary Angles

a. The graph represents the measures of *complementary angles*. Use the graph to complete the table.

x	10	20°	25	30°	45°	50	75°
y	80°	70	65°	60°	45	40°	15

90 90 90



b. How do you know when two angles are complementary? Explain.

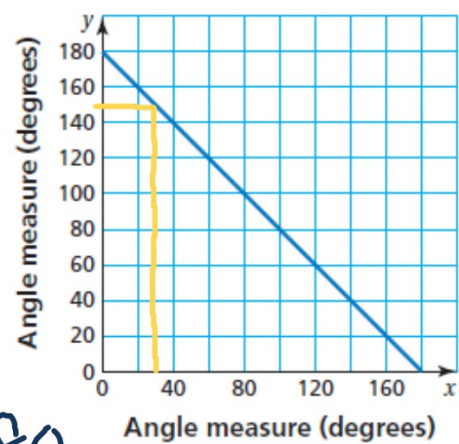
They add up to 90

- c. The graph represents the measures of *supplementary angles*. Use the graph to complete the table.

x	20°	30	60°	90°	130	140°	150
y	160	150°	120	90°	50°	40	30°

- d. How do you know when two angles are supplementary? Explain.

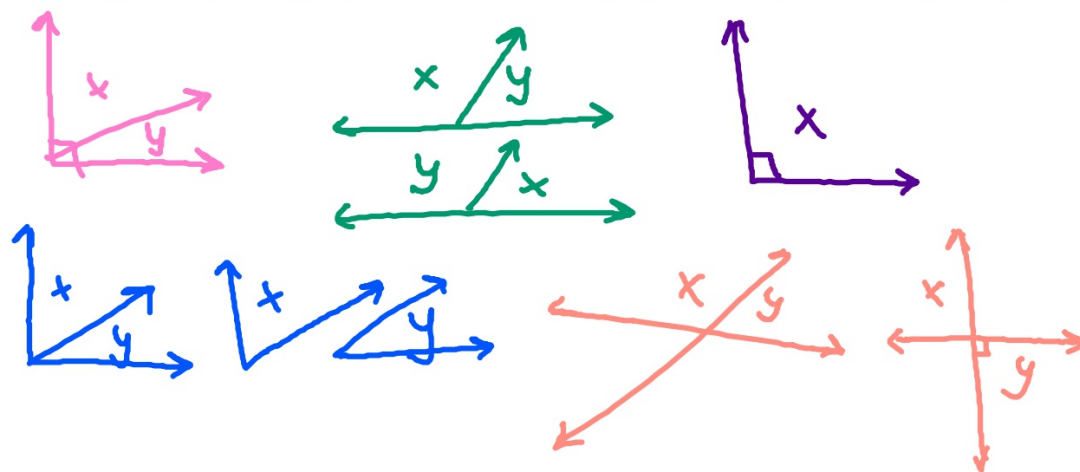
They add up to 180



6

Work with a partner. Copy and complete each sentence with *always*, *sometimes*, or *never*.

- If x and y are complementary angles, then both x and y are always acute.
- If x and y are supplementary angles, then x is sometimes acute.
- If x is a right angle, then x is never acute.
- If x and y are complementary angles, then x and y are sometimes adjacent.
- If x and y are supplementary angles, then x and y are sometimes vertical.



Work with a partner. Tell whether the two angles shown on the clocks are complementary, supplementary, or neither. Explain your reasoning.

a.



b.



c.



d.

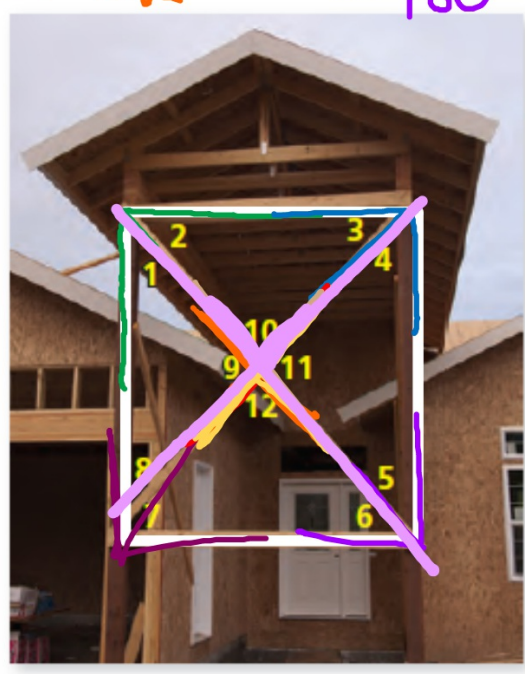


less than
angle

Name four pairs of complementary angles and four pairs of supplementary angles.

$= 90^\circ$

$= 180^\circ$



- ① $\angle 1 + \angle 2$ ① $\angle 9 + \angle 10$
- ② $\angle 3 + \angle 4$ ② $\angle 9 + \angle 12$
- ③ $\angle 5 + \angle 6$ ③ $\angle 12 + \angle 11$
- ④ $\angle 7 + \angle 8$ ④ $\angle 10 + \angle 11$

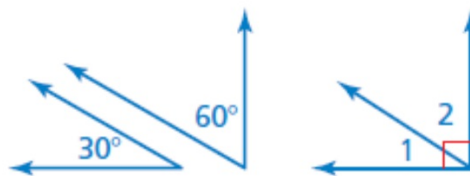
Name two pairs of vertical angles.

- ① $\angle 10 + \angle 12$
- ② $\angle 9 + \angle 11$

Complementary Angles

Words Two angles are **complementary angles** when the sum of their measures is 90° .

Examples



$\angle 1$ and $\angle 2$ are complementary angles.

Supplementary Angles

Words Two angles are **supplementary angles** when the sum of their measures is 180° .

Examples

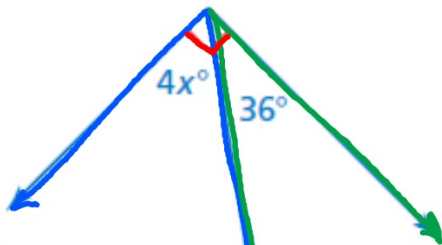


$\angle 3$ and $\angle 4$ are supplementary angles.

Tell whether the angles are *complementary* or *supplementary*.
Then find the value of x .

Comp

a.



$$\begin{array}{r} 13 \\ 4 \overline{) 54.0} \\ \underline{-4} \\ 14 \\ \underline{-12} \\ 2 \\ \underline{-2} \\ 0 \end{array}$$

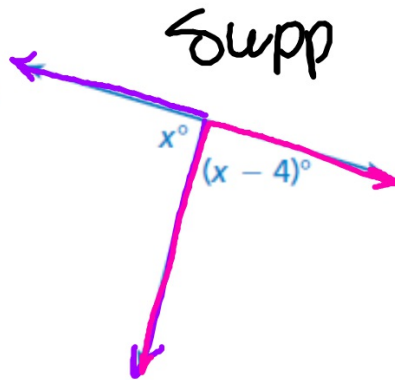
$$4x + 36 = 90$$

$$ - 36 \quad - 36$$

$$\frac{4x}{4} = \frac{54}{4}$$

$$x = 13\frac{1}{2}$$

b.



$$x + x - 4 = 180$$

$$2x - 4 = 180$$

$$ + 4 \quad + 4$$

$$\frac{2x}{2} = \frac{184}{2}$$

$$x = 92$$

Homework

Green WS 2

Due Friday