March 23, 2015

5th
6th

Starter

① $3 + 2x = -9$

$-3 \quad -3$

$\frac{2x}{2} = \frac{-12}{2}$

$x = -6$

② $12 = -5n - 3$

$+3 \quad +3$

$\frac{15}{-5} = \frac{-5n}{-5}$

$-3 = n$

③ $\frac{h}{2} + 4 = 1$

$-4 \quad -4$

$2 \cdot \frac{h}{2} = -3 \cdot 2$

$h = -6$

④ $-7 = -3 + \frac{k}{4}$

$+3 \quad +3$

$4 \cdot -4 = \frac{k}{4} \cdot 4$

$-16 = k$

GoodDog!

3/23 Adjacent / Vertical Angles

Remember from last year:
What are the different types of angles?

Classification of Angles

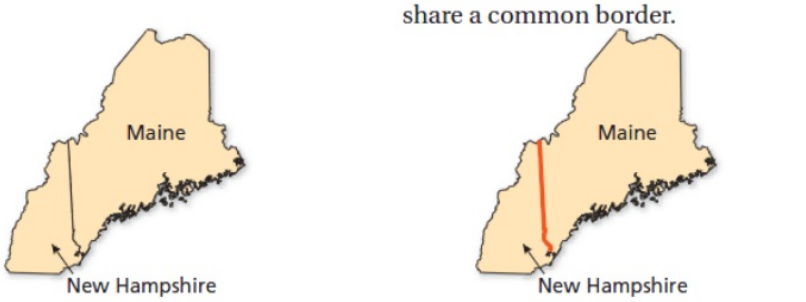
Acute:	*Right:*	*Obtuse:*	*Straight:*
Less than 90°	Equal to 90°	Greater than 90° and less than 180°	Equal to 180°

Definition of ANGLE:
2 rays with a common endpoint

New word: ADJACENT

next to,
share a common side

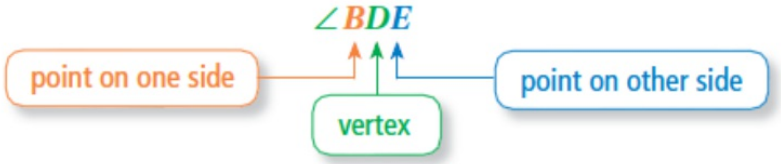
When two states are **adjacent**, they are next to each other and they share a common border.



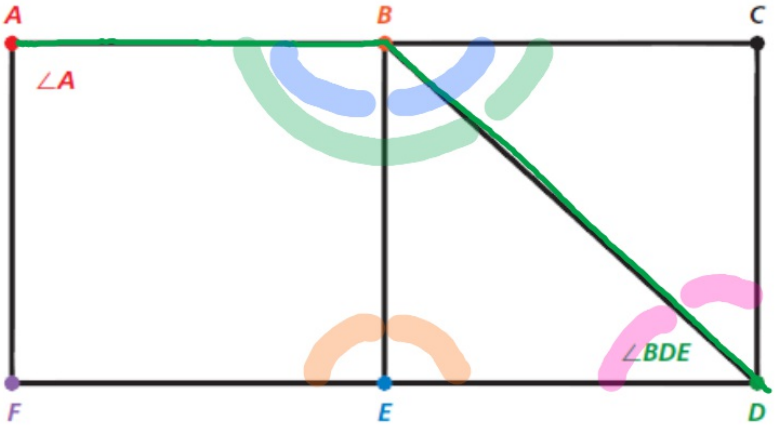
With your partner, come up with a list of things that could be considered 'adjacent.'

shirt / pants
desks
walls at a corner
small + large intestines
storage units
color wheels
teeth

Work with a partner. Some angles, such as $\angle A$, can be named by a single letter. When this does not clearly identify an angle, you should use three letters, as shown.



∠ means "angle"



ABEF and *BCDE* are squares.

a. Name all the right angles, acute angles, and obtuse angles.

b. Which pairs of angles do you think are *adjacent*? Explain.

a) right:
∠ABE
∠CBE
∠AFE
∠A
∠C
∠EDC
∠DEB
∠FEB

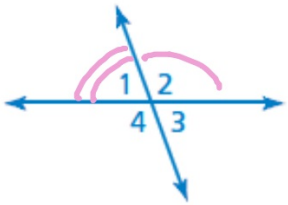
acute
∠BDE
∠BDC
∠DBC
∠DBE

obtuse
∠ABD

Adjacent Angles

Words Two angles are **adjacent angles** when they share a common side and have the same vertex.

Examples



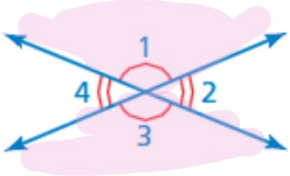
$\angle 1$ and $\angle 2$ are adjacent.

$\angle 2$ and $\angle 4$ are not adjacent.

Vertical Angles

Words Two angles are **vertical angles** when they are opposite angles formed by the intersection of two lines. Vertical angles are **congruent angles**, meaning they have the same measure.

Examples

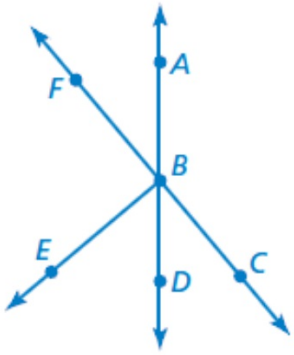


$\angle 1$ and $\angle 3$ are vertical angles.

$\angle 2$ and $\angle 4$ are vertical angles.

Use the figure shown.

a. Name a pair of adjacent angles.



b. Name a pair of vertical angles.

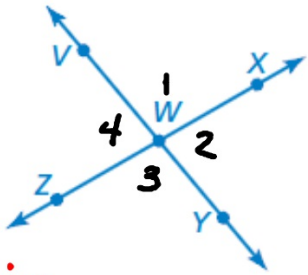
∠FBA and ∠CBD

∠ABC and ∠FBD

On Your Own

Name one pair of adjacent angles and one pair of vertical angles in the figure.

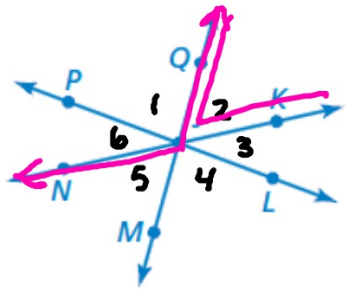
1.



adj:
∠1 + ∠2 ∠1 and ∠XWZ
∠2 + ∠3
∠3 + ∠4 :
∠4 + ∠1 :

Vertical:
∠1 + ∠3
∠2 + ∠4

2.

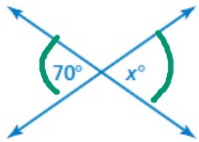


adj: ∠1 + ∠2
∠4 + ∠5
∠NJQ + ∠2

adj VA

Tell whether the angles are *adjacent* or *vertical*. Then find the value of *x*.

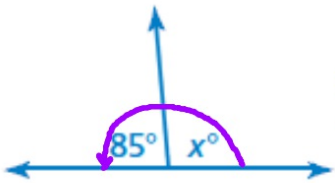
a.



VA

$x = 70$

3.



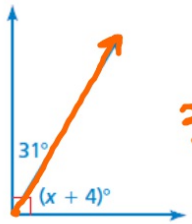
adj.

$85 + x = 180$

$-85 \quad -85$

$x = 95$

b.



Adj

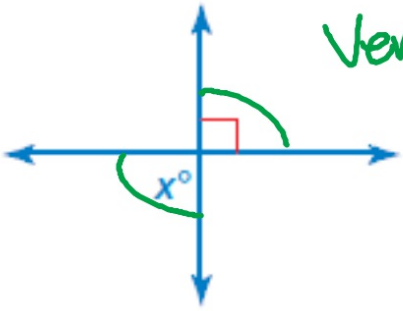
$31 + (x+4) = 90$

$35 + x = 90$

$-35 \quad -35$

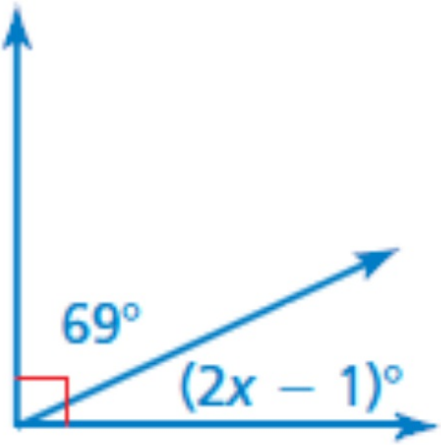
$x = 55$

4.



Vert.

5.



$x = 90$

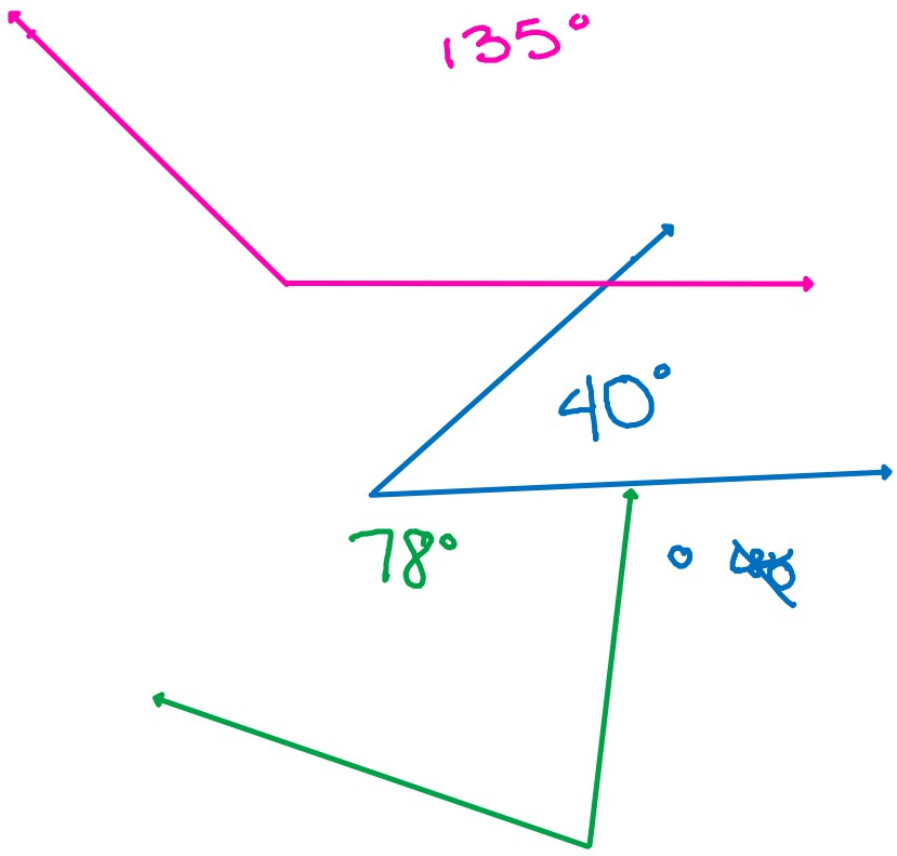
$69 + (2x - 1) = 90$

$68 + 2x = 90$

$-68 \quad -68$

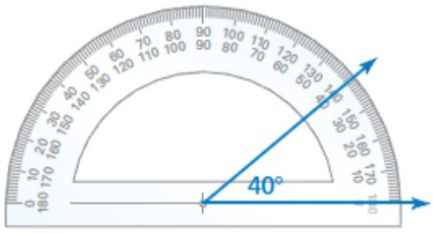
$\frac{2x}{2} = \frac{22}{2}$

$x = 11$

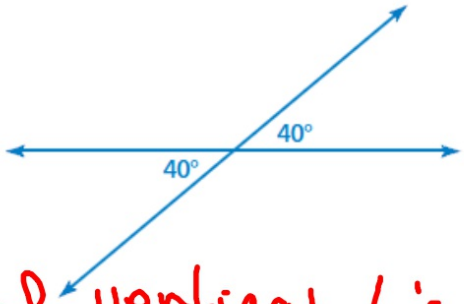

135°
40°
78°

Using a protractor, draw a pair of vertical angles that measure 40°

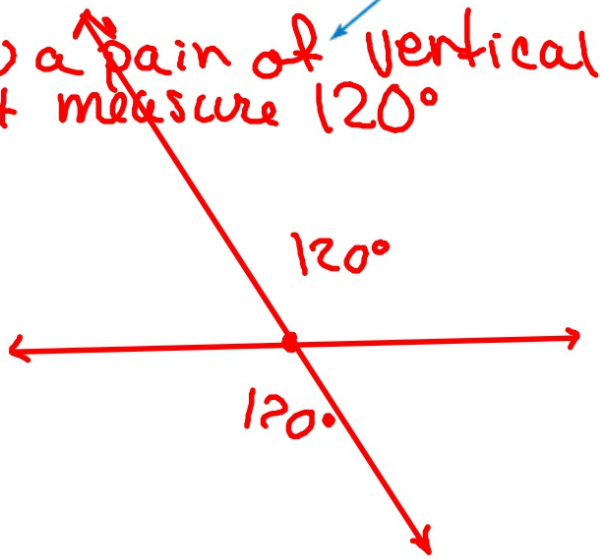
Step 1: Use a protractor to draw a 40° angle.



Step 2: Use a straightedge to extend the sides to form two intersecting lines.



Draw a pair of vertical L's that measure 120°



Homework

Gold WS 1

Due Thurs.