

New Bedford Public Schools
Division of Adult & Continuing Education

New Bedford High School Evening Extension

2019 – 2020 School Year
Trimester III

Learning Packet #2
for
Geometry

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Email Mr. Alves with questions/concerns regarding this packet at the email address listed above.

Due date: May 4, 2020



NOTE:

The Google Class Code

for your

Geometry class is:

bw7dfv6

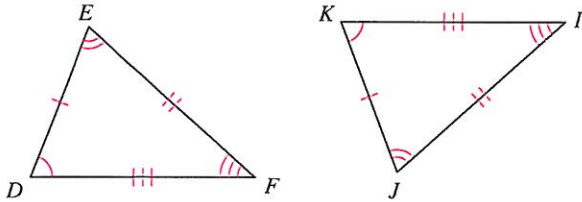
You can also connect with Mr. Alves via remind

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Congruence and Triangles

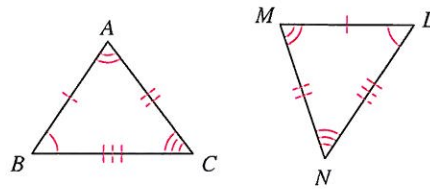
Complete each congruence statement by naming the corresponding angle or side.

1) $\triangle DEF \cong \triangle KJI$



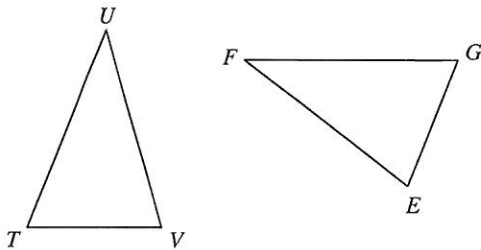
$\overline{FD} \cong ?$

2) $\triangle BAC \cong \triangle LMN$



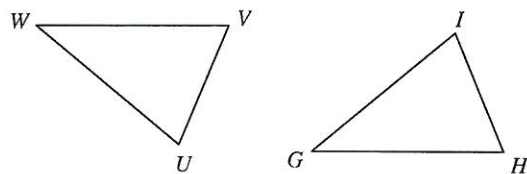
$\angle A \cong ?$

3) $\triangle TUV \cong \triangle GFE$



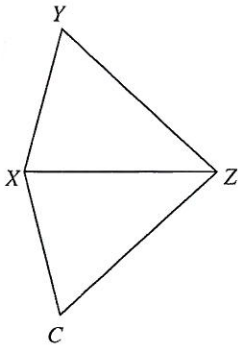
$\angle U \cong ?$

4) $\triangle WVU \cong \triangle GHI$



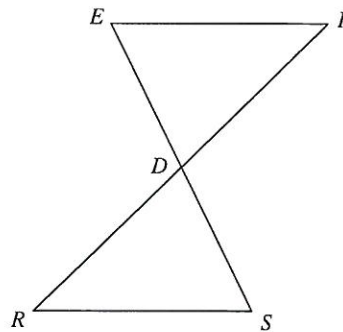
$\angle W \cong ?$

5) $\triangle ZXY \cong \triangle ZXC$



$\angle Y \cong ?$

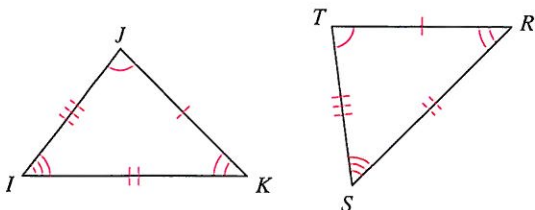
6) $\triangle DEF \cong \triangle DSR$



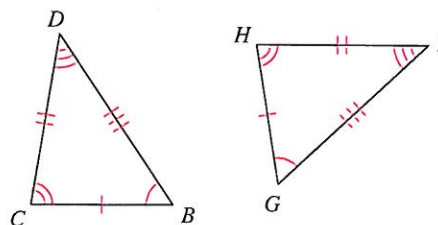
$\angle F \cong ?$

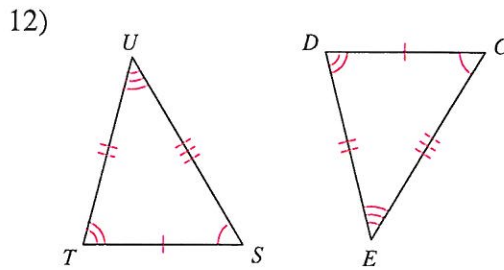
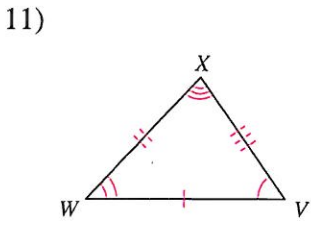
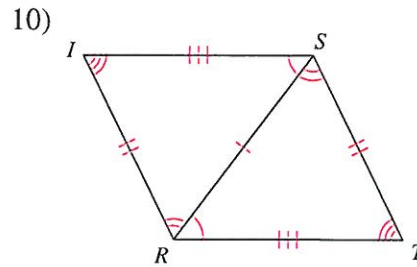
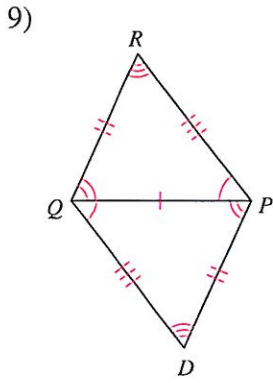
Write a statement that indicates that the triangles in each pair are congruent.

7)



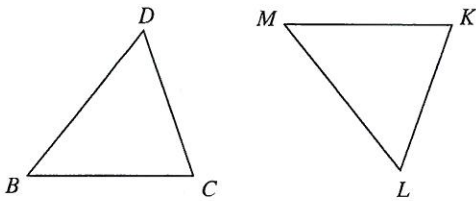
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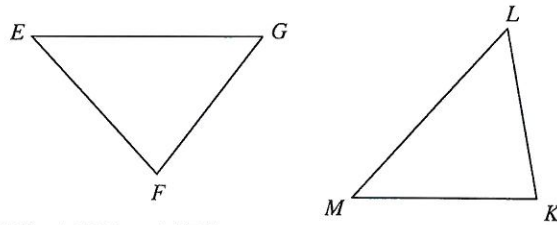


Mark the angles and sides of each pair of triangles to indicate that they are congruent.

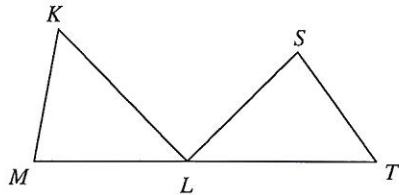
13) $\triangle BDC \cong \triangle MLK$



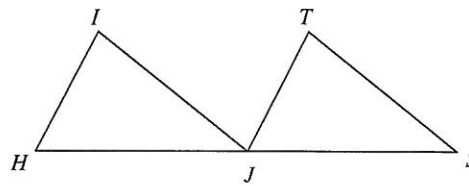
14) $\triangle GFE \cong \triangle LKM$



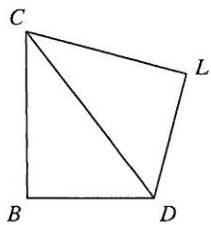
15) $\triangle MKL \cong \triangle STL$



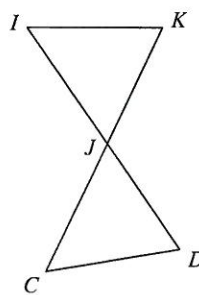
16) $\triangle HIJ \cong \triangle JTS$



17) $\triangle CDB \cong \triangle CDL$

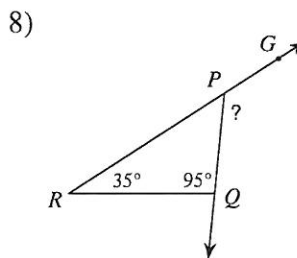
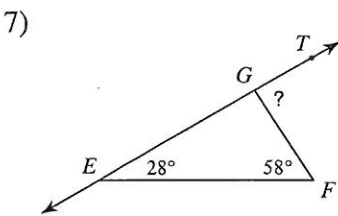
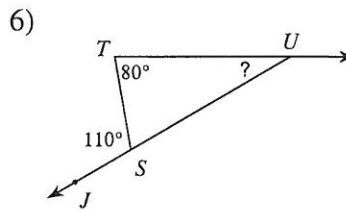
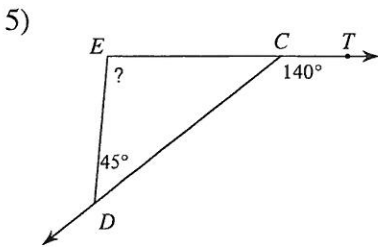
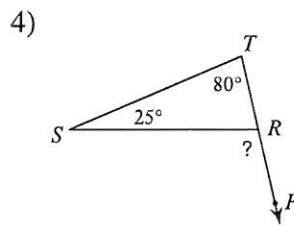
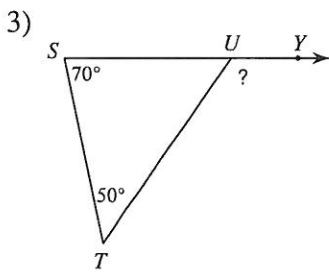
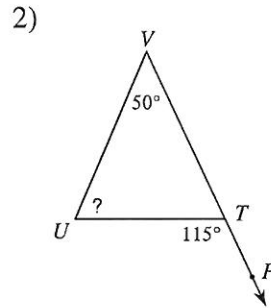
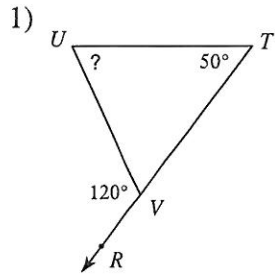


18) $\triangle JIK \cong \triangle JCD$

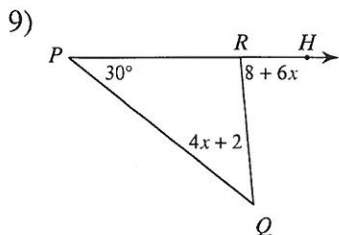


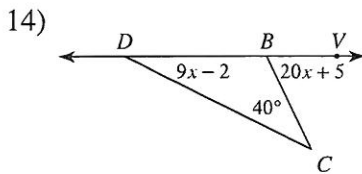
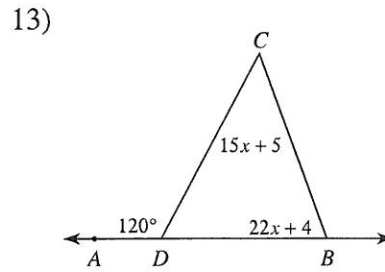
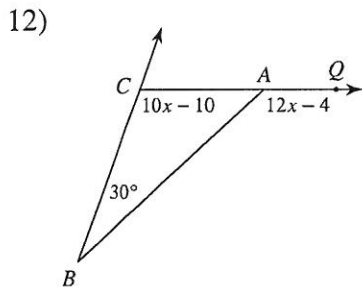
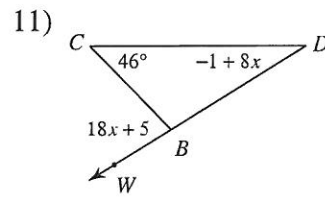
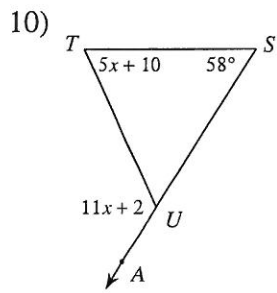
The Exterior Angle Theorem

Find the measure of each angle indicated.



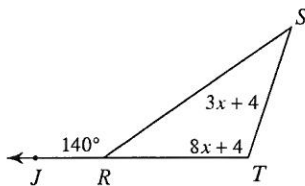
Solve for x .



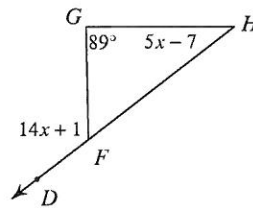


Find the measure of the angle indicated.

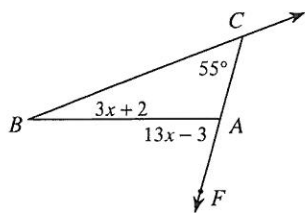
15) Find $m\angle S$.



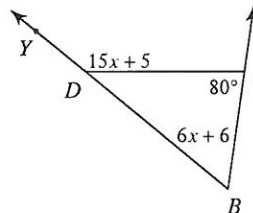
16) Find $m\angle H$.



17) Find $m\angle FAB$.

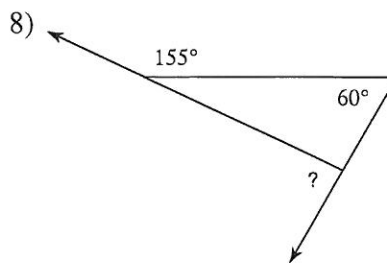
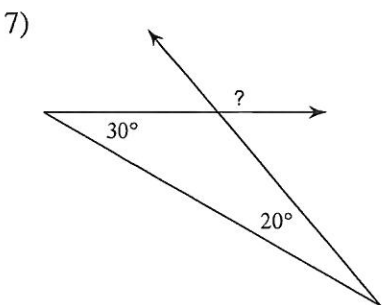
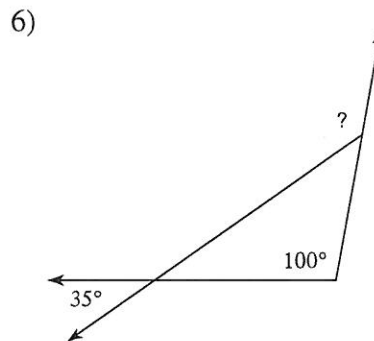
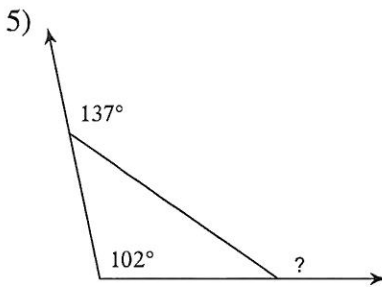
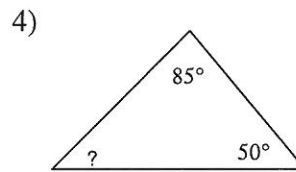
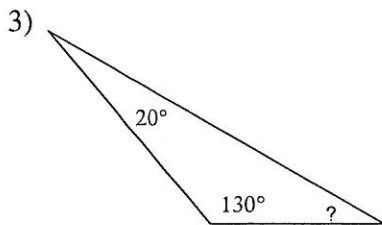
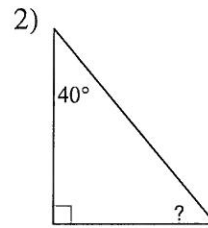
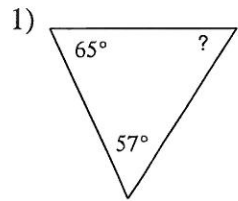


18) Find $m\angle YDC$.

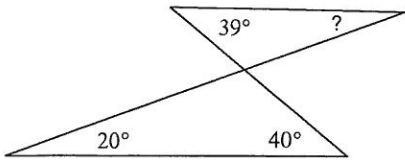


Angles in a Triangle

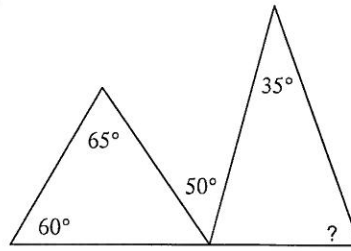
Find the measure of each angle indicated.



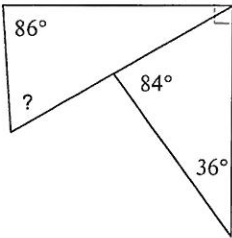
9)



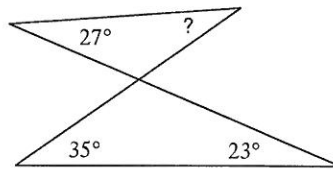
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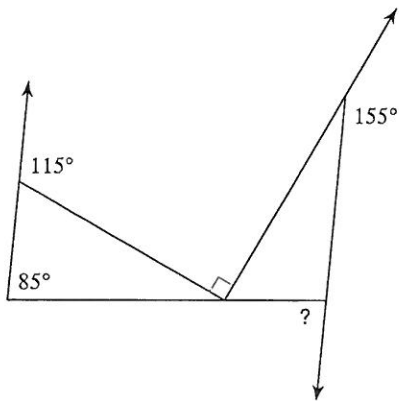
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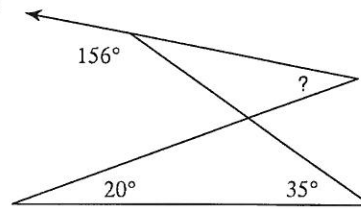
12)



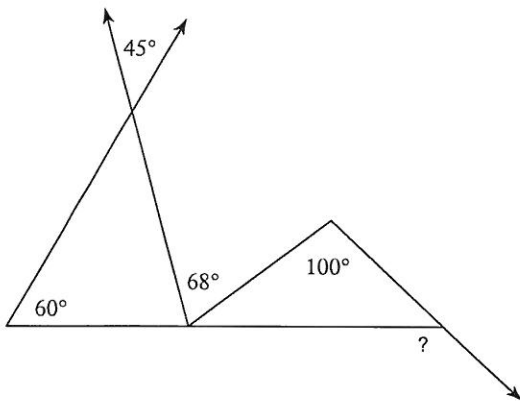
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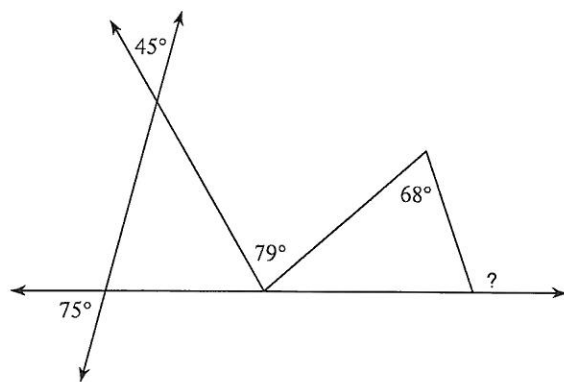
14)



15)



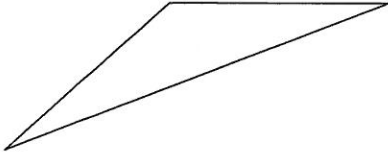
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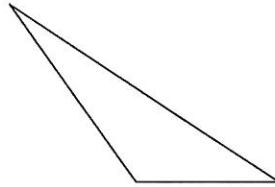
Classifying Triangles

Classify each triangle by each angles and sides. Base your decision on the actual lengths of the sides and the measures of the angles.

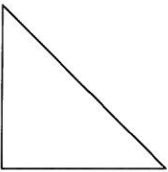
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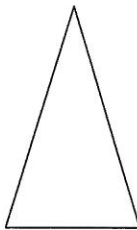
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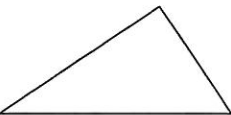
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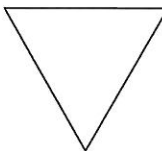
4)



5)

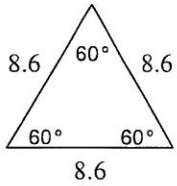


6)

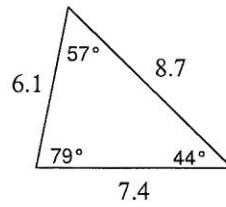


Classify each triangle by each angles and sides.

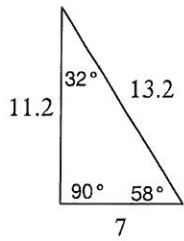
7)



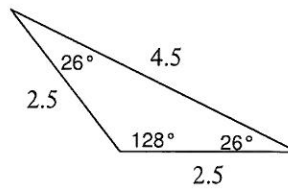
8)



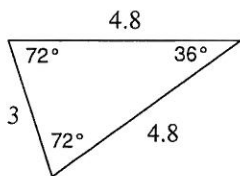
9)



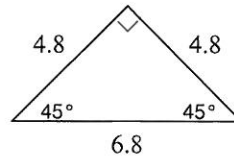
10)



11)



12)

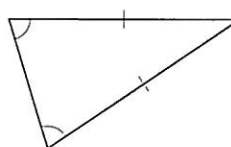


Classify each triangle by each angles and sides. Equal sides and equal angles, if any, are indicated in each diagram.

13)



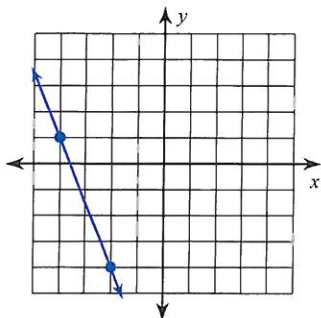
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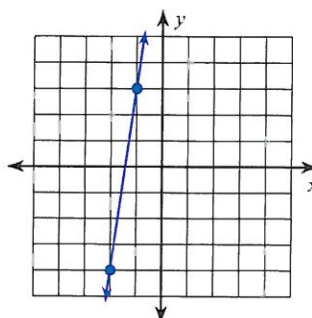
Parallel Lines in the Coordinate Plane

Find the slope of each line.

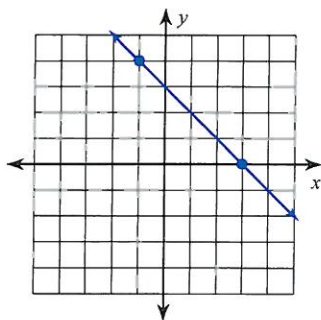
1)



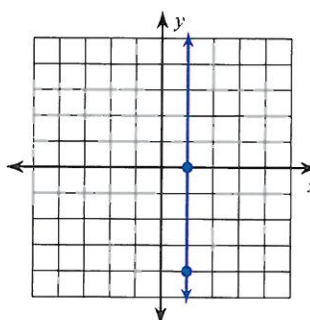
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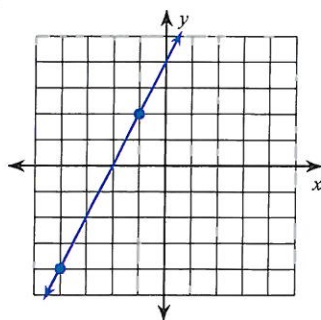
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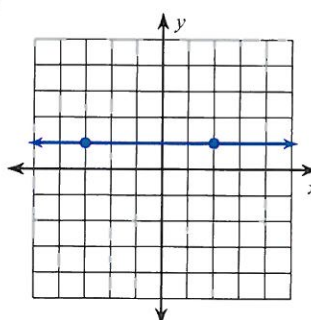
4)



5)



6)



7) $y = -\frac{1}{3}x - 4$

8) $y = 2x - 2$

9) $x = -1$

10) $y = \frac{3}{2}x - 3$

11) $y = -\frac{7}{5}x - 3$

12) $y = -\frac{5}{4}x - 2$

Write the slope-intercept form of the equation of each line given the slope and y-intercept.

13) Slope = -3 , y-intercept = -1

14) Slope = $\frac{5}{3}$, y-intercept = -3

15) Slope = -1 , y-intercept = 3

16) Slope = $\frac{2}{5}$, y-intercept = 1

17) Slope = 3 , y-intercept = 0

18) Slope = $-\frac{1}{2}$, y-intercept = 4

Find the slope of a line parallel to each given line.

19) $y = 2x - 5$

20) $y = 2x - 4$

21) $y = \frac{4}{5}x - 3$

22) $y = -\frac{8}{3}x - 4$

23) $y = -x - 2$

24) $y = -2x - 1$

Critical thinking questions:

25) Fill in the blank so that the lines are not parallel:

Line A goes through _____ Line B goes through _____

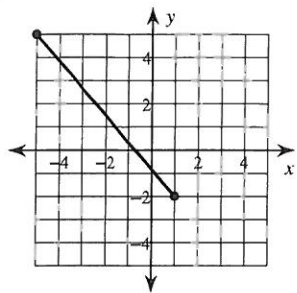
(0, 8) and (-2, 0) (1, 2) and (3, _____)

26) Write the equations of five lines that are parallel to $y = \frac{x}{2} - 6$

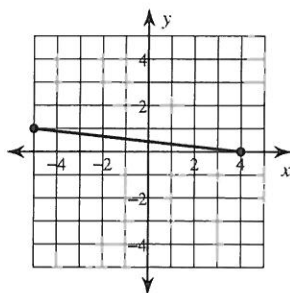
The Distance Formula

Find the distance between each pair of points. Round your answer to the nearest tenth, if necessary.

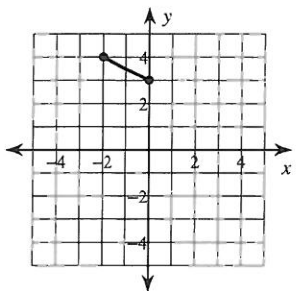
1)



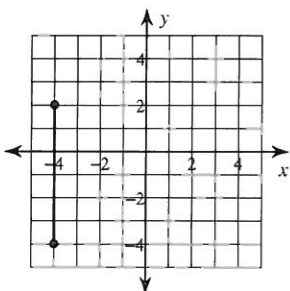
2)



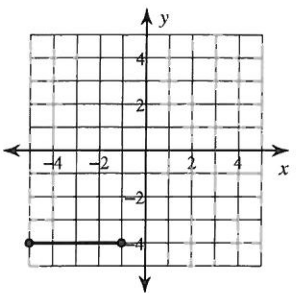
3)



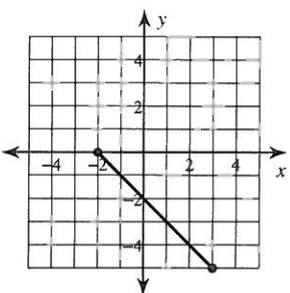
4)



5)



6)



7) $(-2, 3), (-7, -7)$

8) $(2, -9), (-1, 4)$

9) $(5, 9), (-7, -7)$

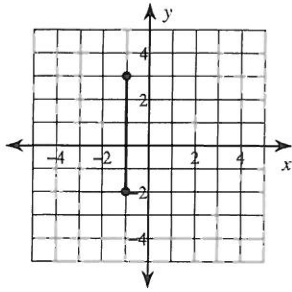
10) $(8, 5), (-1, 3)$

11) $(-10, -7), (-8, 1)$

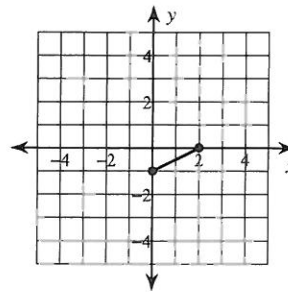
12) $(-6, -10), (-2, -10)$

Find the distance between each pair of points.

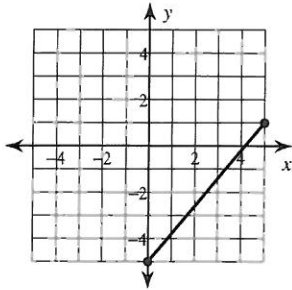
13)



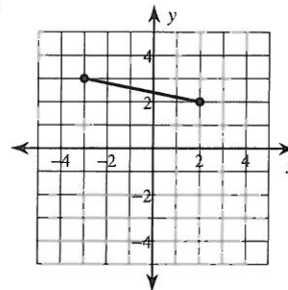
14)



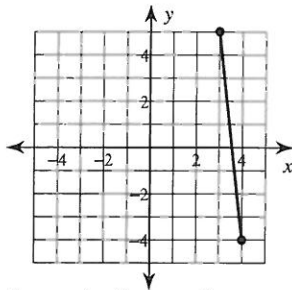
15)



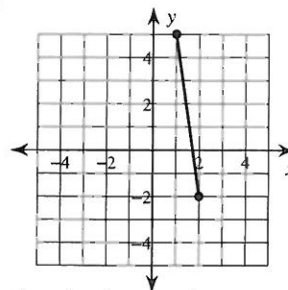
16)



17)



18)



19) $(0, -2), (-5, -1)$

20) $(6, 4), (-5, -1)$

21) $(3, 8), (9, 10)$

22) $(10, 1), (9, -4)$

23) $(-8, 10), (-6, 7)$

24) $(-5, 6), (8, -4)$

Critical thinking questions:

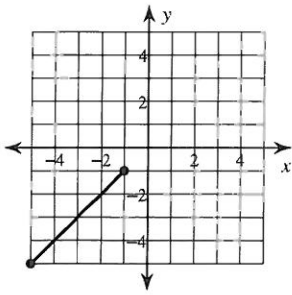
25) Name a point that is $\sqrt{2}$ away from $(-1, 5)$.

26) Name a point that is between 50 and 60 units away from $(7, -2)$ and state the distance between the two points.

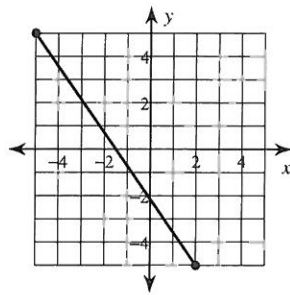
The Midpoint Formula

Find the midpoint of each line segment.

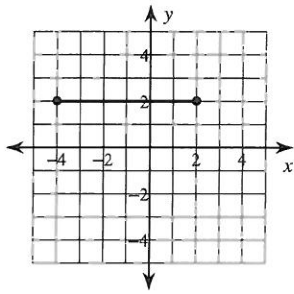
1)



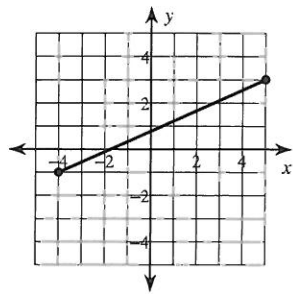
2)



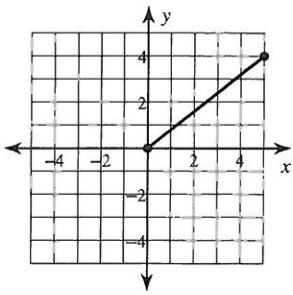
3)



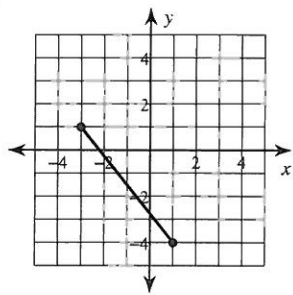
4)



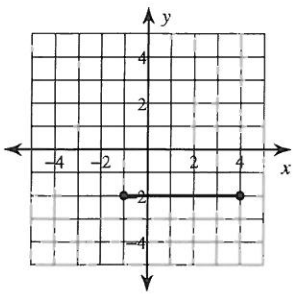
5)



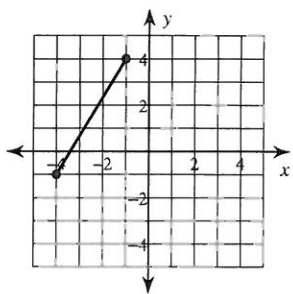
6)



7)



8)



Find the midpoint of the line segment with the given endpoints.

9) $(-4, 4)$, $(5, -1)$

10) $(-1, -6)$, $(-6, 5)$

11) $(2, 4)$, $(1, -3)$

12) $(-4, 4)$, $(-2, 2)$

13) $(5, 2)$, $(-4, -3)$

14) $(-1, 1)$, $(5, -5)$

15) $(2, -1)$, $(-6, 0)$

16) $(-3.1, -2.8)$, $(-4.92, -3.3)$

17) $(-5.1, -2)$, $(1.4, 1.7)$

18) $(4.9, -1.3)$, $(-5.2, -0.6)$

19) $(5.1, 5.71)$, $(6, 3.6)$

20) $(3.1, -2.1)$, $(-0.52, -0.6)$

Find the other endpoint of the line segment with the given endpoint and midpoint.

21) Endpoint: $(-1, 9)$, midpoint: $(-9, -10)$

22) Endpoint: $(2, 5)$, midpoint: $(5, 1)$

23) Endpoint: $(5, 2)$, midpoint: $(-10, -2)$

24) Endpoint: $(9, -10)$, midpoint: $(4, 8)$

25) Endpoint: $(-9, 7)$, midpoint: $(10, -3)$

26) Endpoint: $(-6, 4)$, midpoint: $(4, 8)$

Critical thinking questions:

27) Find the point that is one-fourth of the way from $(2, 4)$ to $(10, 8)$.

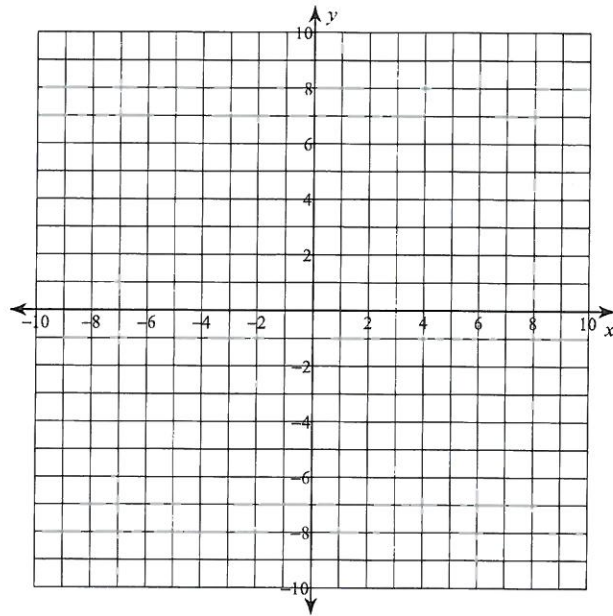
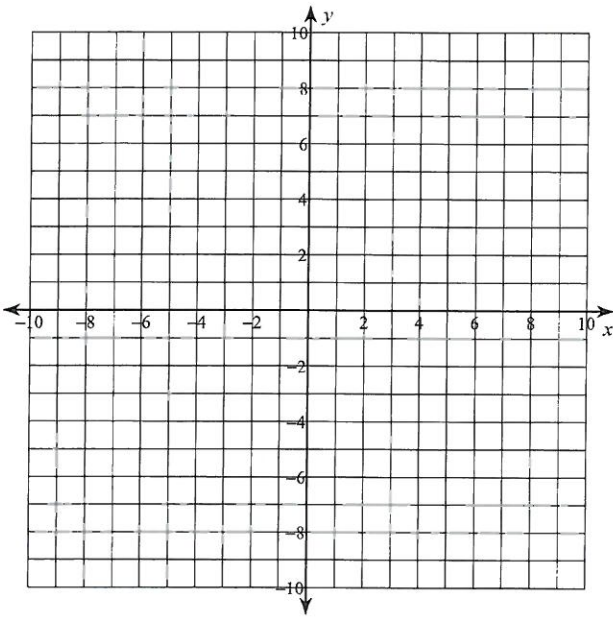
28) One endpoint of a line segment is $(8, -1)$. The point $(5, -2)$ is one-third of the way from that endpoint to the other endpoint. Find the other endpoint.

Points in the Coordinate Plane

Plot each point.

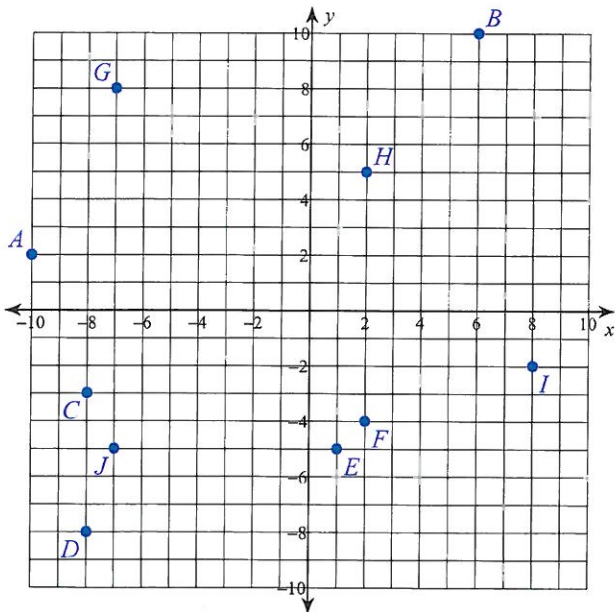
- 1) $J(5, 10)$ $I(1, 9)$ $H(6, -9)$
 $G(-6, 8)$ $F(9, 0)$ $E(-6, 0)$
 $D(-8, -4)$ $C(5, 0)$ $B(-1, -1)$
 $A(-8, -1)$

- 2) $A(7, 10)$ $B(0, 4)$ $C(-1, 10)$
 $D(-6, -6)$ $E(10, 0)$ $F(9, 7)$
 $G(-3, -4)$ $H(-4, -9)$ $I(4, 1)$
 $J(7, -9)$

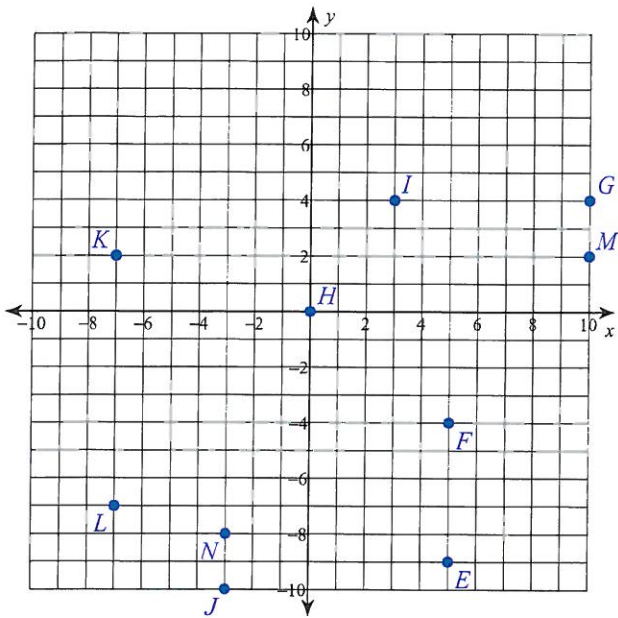


State the coordinates of each point.

3)



4)



State the quadrant or axis that each point lies in.

5) $L(-2, 1)$ $K(-3, -2)$ $J(3, 1)$

6) $T(-3, 5)$ $U(1, 0)$ $V(-5, 5)$

7) $S(5, -7)$ $T(7, 2)$ $U(-5, 4)$

8) $R(7, 0)$ $Q(8, -1)$ $P(3, 0)$

Critical thinking questions:

9) State the coordinates of the endpoints of a line segment that intersects the y -axis.

10) State the coordinates of the endpoints of a line segment that is not parallel to either axis, and does not intersect either axis.