The Midpoint Formula

Name_____ _____ _____
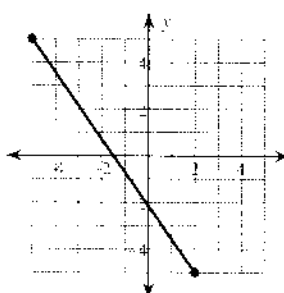
Date_____ _____ Period____

Find the midpoint of each line segment.

1)
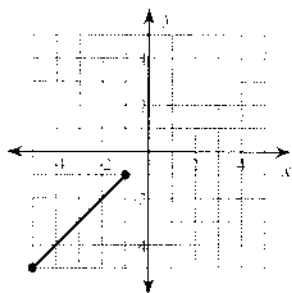
2)

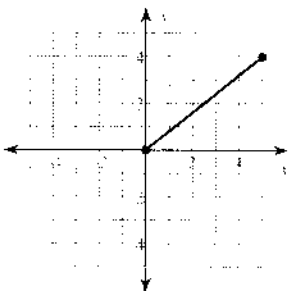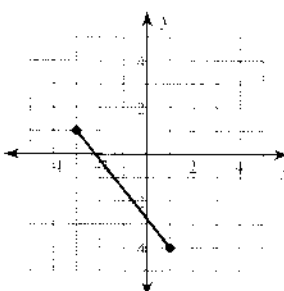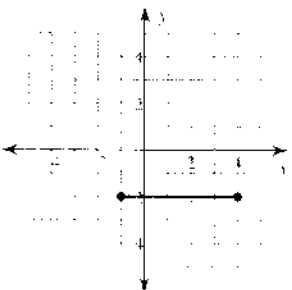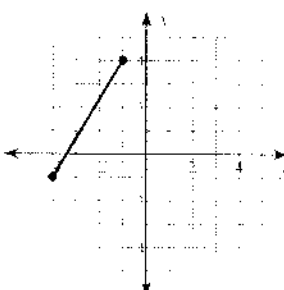

3)
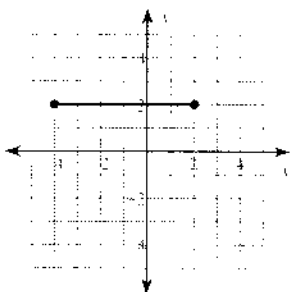
4)
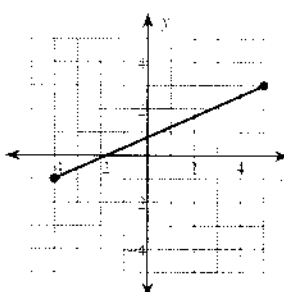
5)

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:

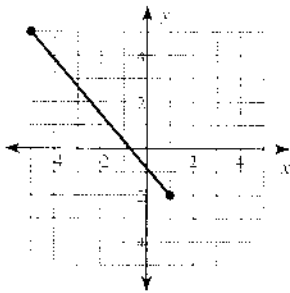27) Find the point that is one-fourth of the way from $(2, 4)$ to $(10, 8)$.

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.
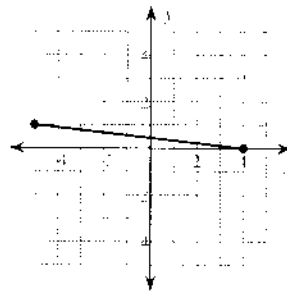
The Distance Formula

Name_____ _____ _____ ____

Find the distance between each pair of points. Round your answer to the nearest tenth, if necessary.
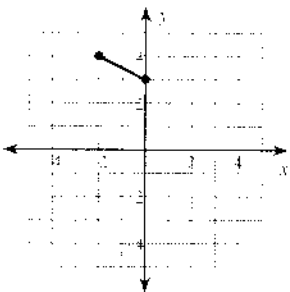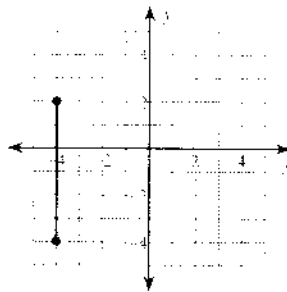
1)

2)

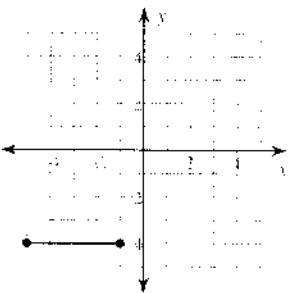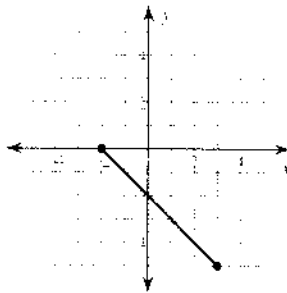3)

4)

5)

6)

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

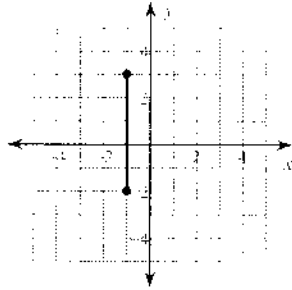8) $(2, -9)$, $(-1, 4)$

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

10) $(8, 5)$, $(-1, 3)$
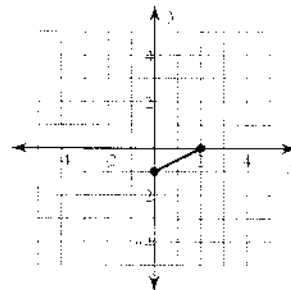
11) $(-10, -7)$, $(-8, 1)$

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

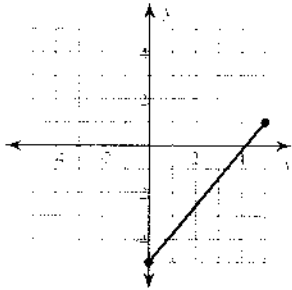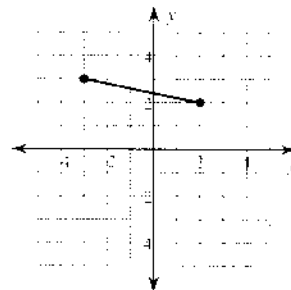**Find the distance between each pair of points.**
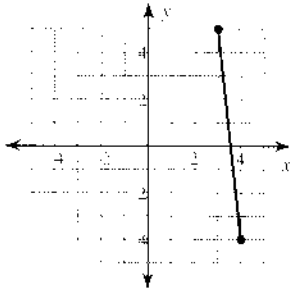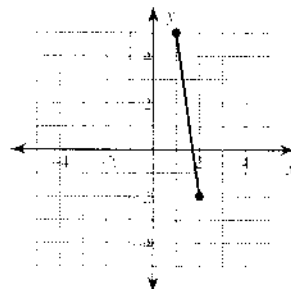
13)

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.