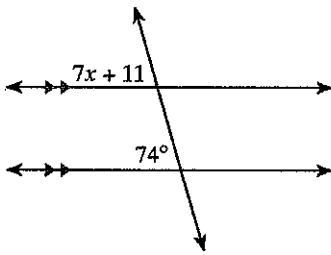


Midterm exam *Review.*

Solve for x .

1)



- A) 6 B) 9
C) 10 D) 3

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

2) $y = \frac{3}{2}x + 1$

- A) $\frac{3}{2}$ B) $-\frac{3}{2}$
C) $-\frac{2}{3}$ D) $\frac{2}{3}$

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

3) $y = -7x + 2$

- A) 7 B) $\frac{1}{7}$
C) -7 D) $-\frac{1}{7}$

4) $y = 5x + 1$

- A) 5 B) -5
C) $\frac{1}{5}$ D) $-\frac{1}{5}$

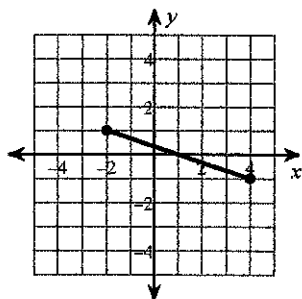
Find the slope of the line through each pair of points.

5) $(-2, 20), (8, 17)$

- A) $\frac{10}{3}$ B) $-\frac{10}{3}$
C) $-\frac{3}{10}$ D) $\frac{3}{10}$

Find the midpoint of each line segment.

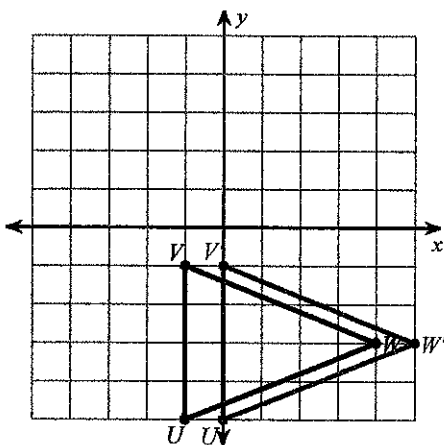
6)



- A) $(-\frac{1}{2}, 1\frac{1}{2})$ B) $(10, -3)$
 C) $(1, 0)$ D) $(-3, 1)$

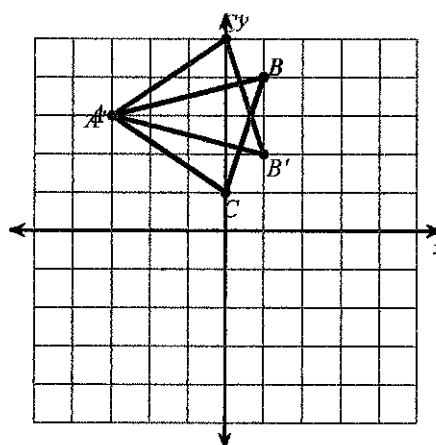
Write a rule to describe each transformation.

7)



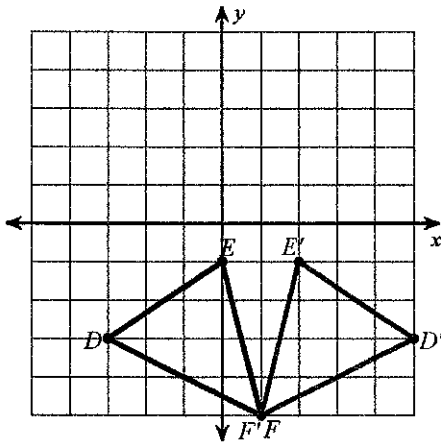
- A) reflection across $y = -3$
 B) reflection across $x = 2$
 C) rotation 180° about the origin
 D) translation: $(x, y) \rightarrow (x + 1, y)$

8)



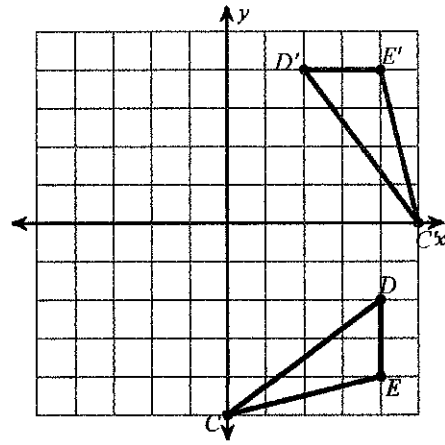
- A) reflection across $y = 3$
 B) rotation 90° counterclockwise about the origin
 C) reflection across $y = 1$
 D) reflection across $y = -x$

9)



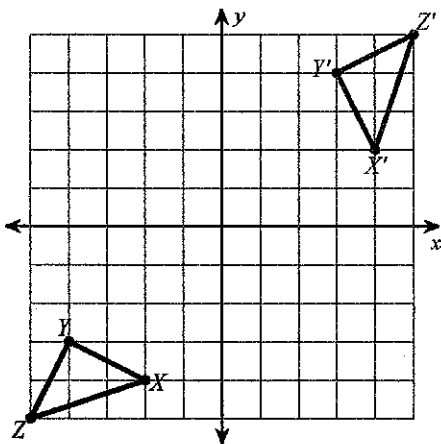
- A) rotation 180° about the origin
- B) translation: $(x, y) \rightarrow (x + 2, y + 2)$
- C) reflection across $x = 1$
- D) translation: $(x, y) \rightarrow (x, y + 2)$

10)



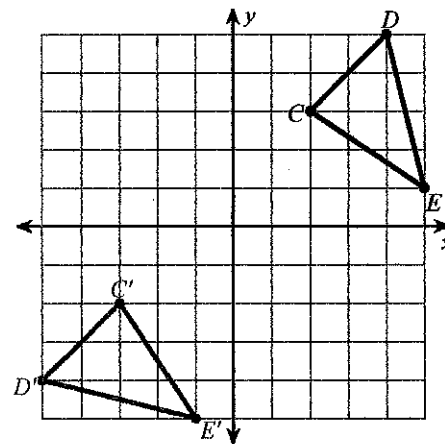
- A) rotation 90° counterclockwise about the origin
- B) reflection across $x = 2$
- C) rotation 180° about the origin
- D) translation: $(x, y) \rightarrow (x + 1, y + 1)$

11)



- A) rotation 90° counterclockwise about the origin
- B) reflection across $y = -x$
- C) translation: $(x, y) \rightarrow (x + 7, y + 8)$
- D) reflection across $y = -1$

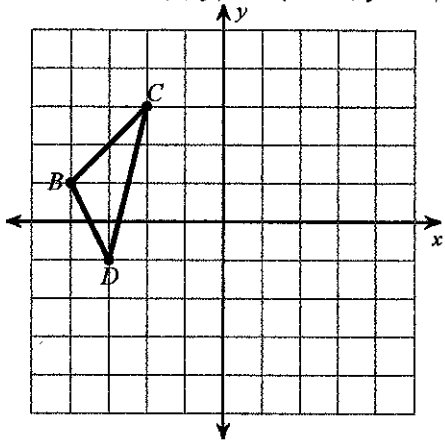
12)



- A) rotation 180° about the origin
- B) reflection across $y = -x$
- C) translation: $(x, y) \rightarrow (x - 4, y - 6)$
- D) reflection across the y-axis

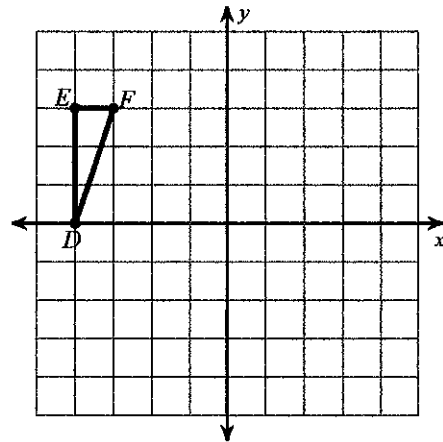
Find the coordinates of the vertices of each figure after the given transformation.

13) translation: $(x, y) \rightarrow (x + 6, y - 1)$



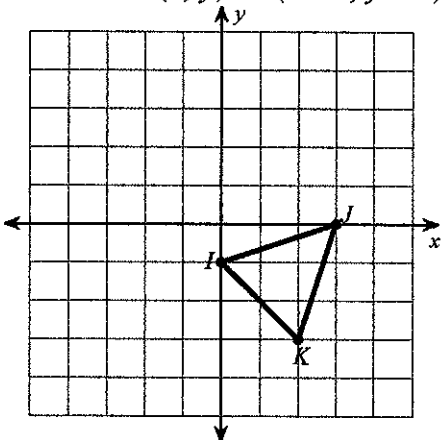
- A) $B(2, 0), C(4, 2), D(3, -2)$
- B) $B(-1, -4), C(-3, -2), D(1, -3)$
- C) $B(4, -1), C(2, -3), D(3, 1)$
- D) $B(0, -2), C(2, 0), D(1, -4)$

14) reflection across $x = -1$



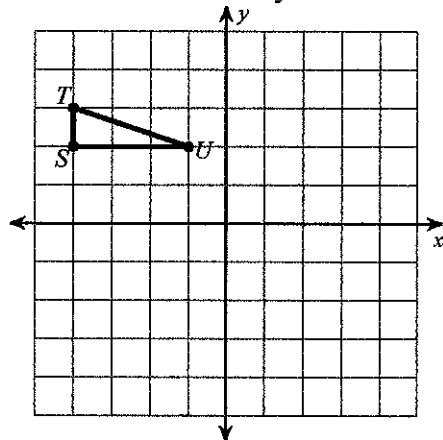
- A) $D(0, -5), E(0, -2), F(1, -2)$
- B) $D(0, -3), E(0, 0), F(1, 0)$
- C) $E(2, 3), F(1, 3), D(2, 0)$
- D) $D(0, 0), E(0, 3), F(1, 3)$

15) translation: $(x, y) \rightarrow (x - 1, y - 1)$



- A) $I(0, 1), J(-3, 0), K(-2, 3)$
- B) $J(3, 0), K(2, 3), I(0, 1)$
- C) $J(-5, 0), K(-4, -3), I(-2, -1)$
- D) $I(-1, -2), J(2, -1), K(1, -4)$

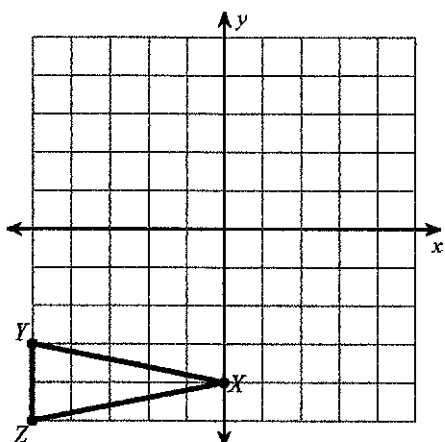
16) reflection across the y-axis



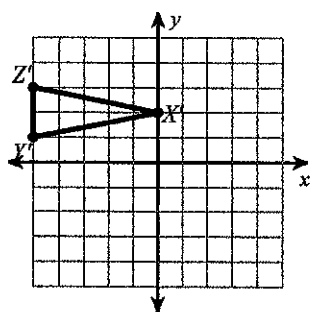
- A) $T(4, 3), U(1, 2), S(4, 2)$
- B) $T(-2, 3), U(-5, 2), S(-2, 2)$
- C) $T(-4, 3), U(-1, 4), S(-4, 4)$
- D) $T(3, -4), U(2, -1), S(2, -4)$

Graph the image of the figure using the transformation given.

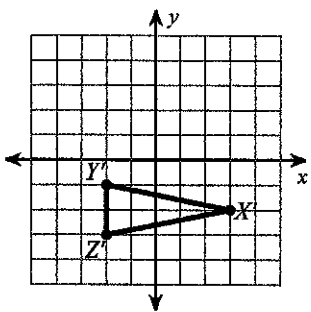
17) rotation 90° counterclockwise about the origin



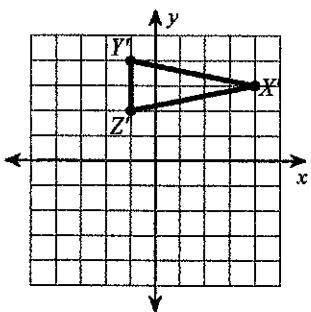
A)



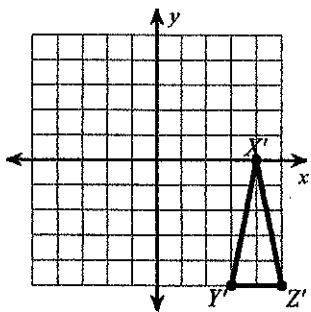
B)



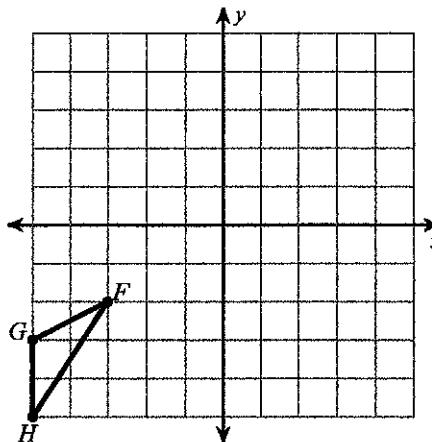
C)



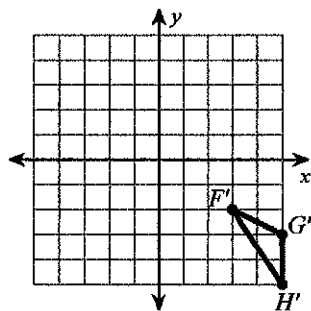
D)



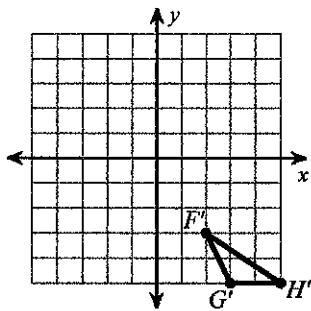
18) reflection across $y = -x$



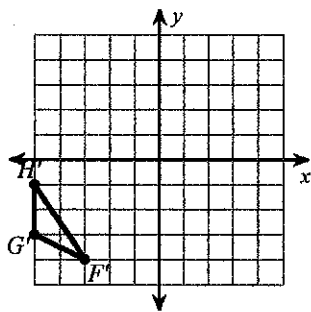
A)



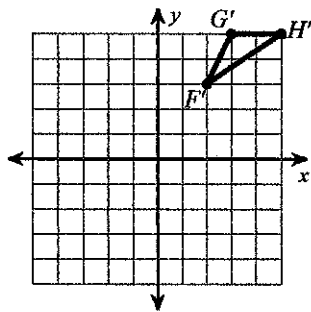
B)



C)

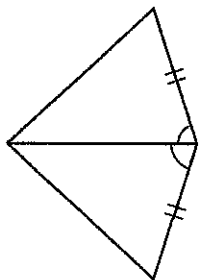


D)



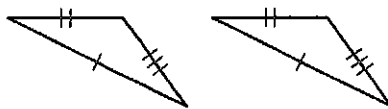
State if the two triangles are congruent. If they are, state how you know.

19)



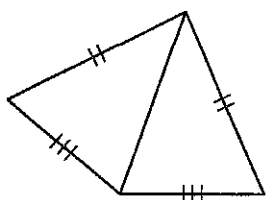
- A) AAS
- B) SSS
- C) SAS
- D) ASA

20)



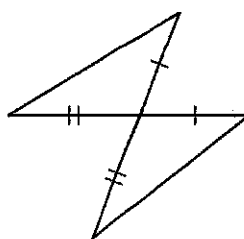
- A) SAS
- B) Not congruent
- C) SSS
- D) AAS

21)



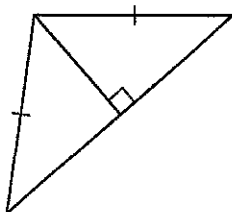
- A) ASA
- B) SAS
- C) SSS
- D) HL

22)



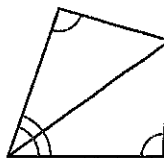
- A) ASA
- B) SSS
- C) Not congruent
- D) SAS

23)



- A) SAS
- B) AAS
- C) SSS
- D) HL

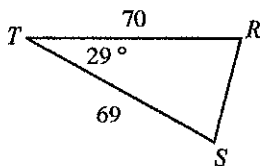
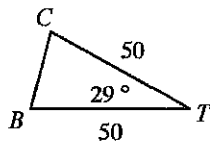
24)



- A) SAS
- B) ASA
- C) AAS
- D) Not congruent

State if the triangles in each pair are similar. If so, state how you know they are similar and complete the similarity statement.

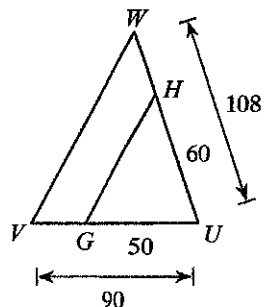
25)



$\triangle TSR \sim$ _____

- A) not similar
- B) similar; SSS similarity; $\triangle TBC$
- C) similar; SAS similarity; $\triangle CBT$
- D) similar; AA similarity; $\triangle TBC$

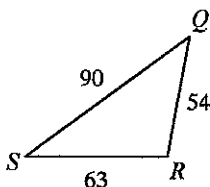
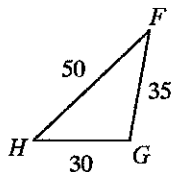
26)



$\triangle UVW \sim$ _____

- A) not similar
- B) similar; SAS similarity; $\triangle UGH$
- C) similar; SAS similarity; $\triangle UHG$
- D) similar; AA similarity; $\triangle UHG$

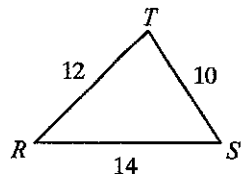
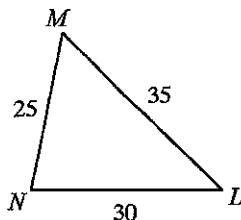
27)



$\triangle SRQ \sim$ _____

- A) similar; SSS similarity; $\triangle FGH$
- B) similar; AA similarity; $\triangle FGH$
- C) not similar
- D) similar; AA similarity; $\triangle FHG$

28)



$\triangle NML \sim$ _____

- A) similar; SSS similarity; $\triangle RST$
- B) similar; SSS similarity; $\triangle TSR$
- C) not similar
- D) similar; AA similarity; $\triangle RST$

Solve each proportion.

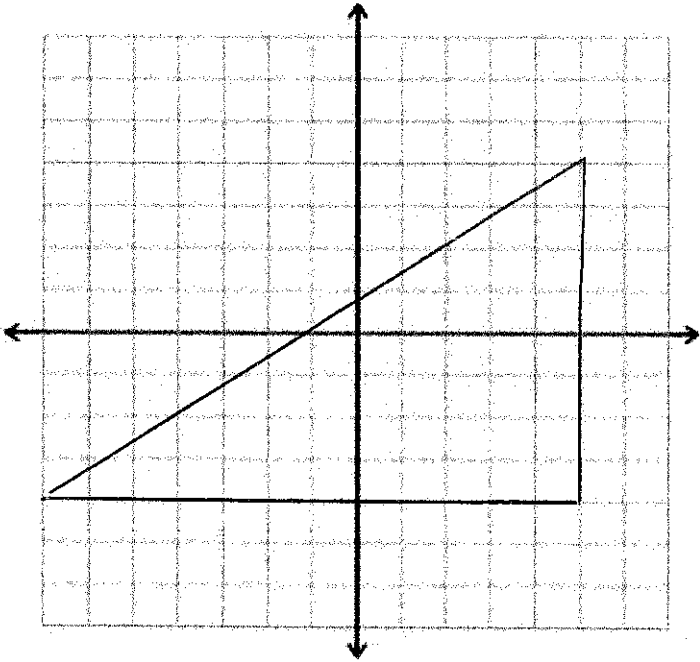
29) $\frac{9}{8} = \frac{7}{m}$

- A) {8}
- B) {7.4}
- C) {6.22}
- D) {2.6}

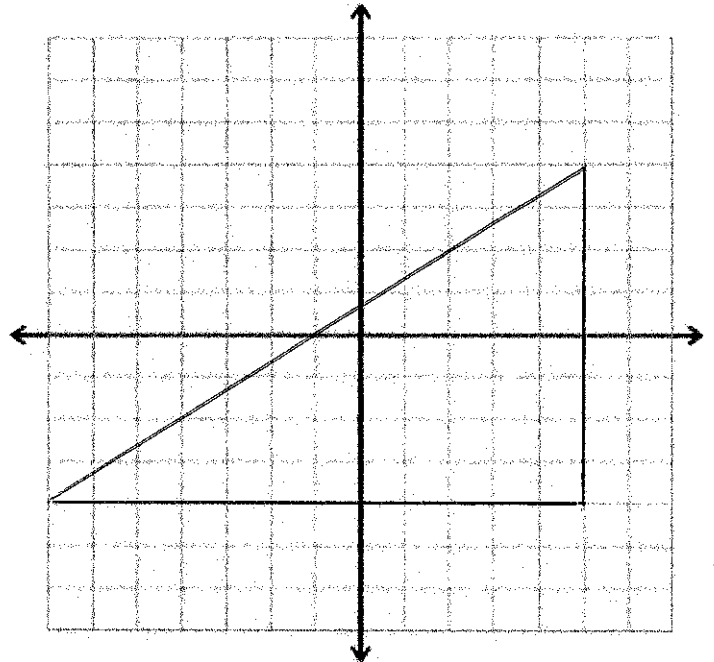
30) $\frac{8}{2} = \frac{a}{4}$

- A) {1.3}
- B) {16}
- C) {6.6}
- D) {5.01}

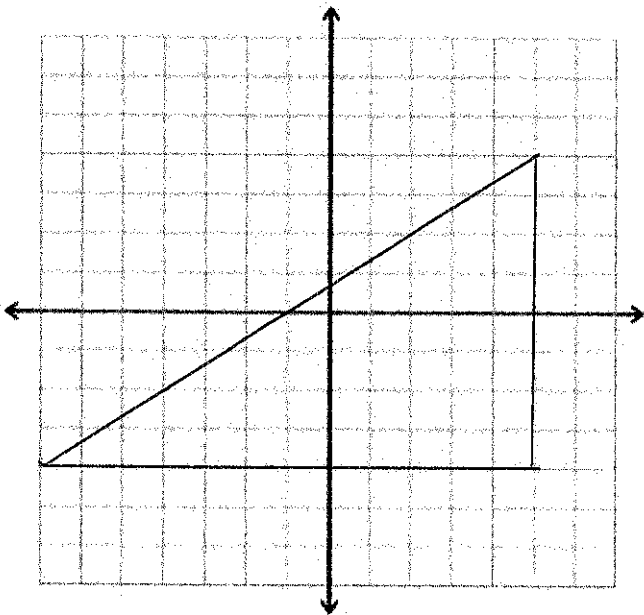
31. Find the circumcenter



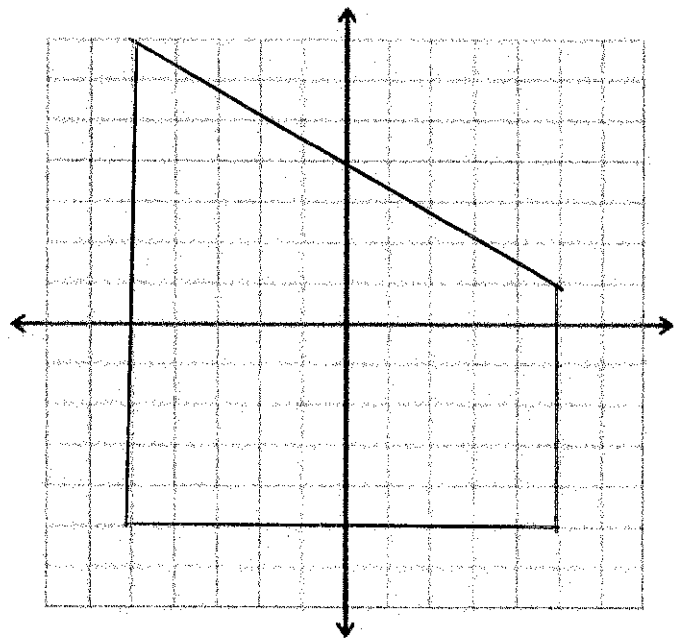
32. Find the area of the triangle



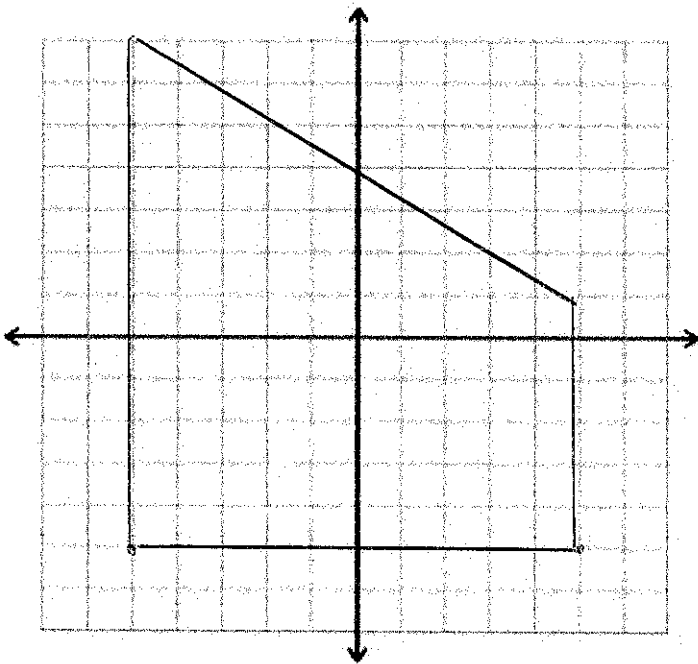
33. Find the perimeter of the triangle



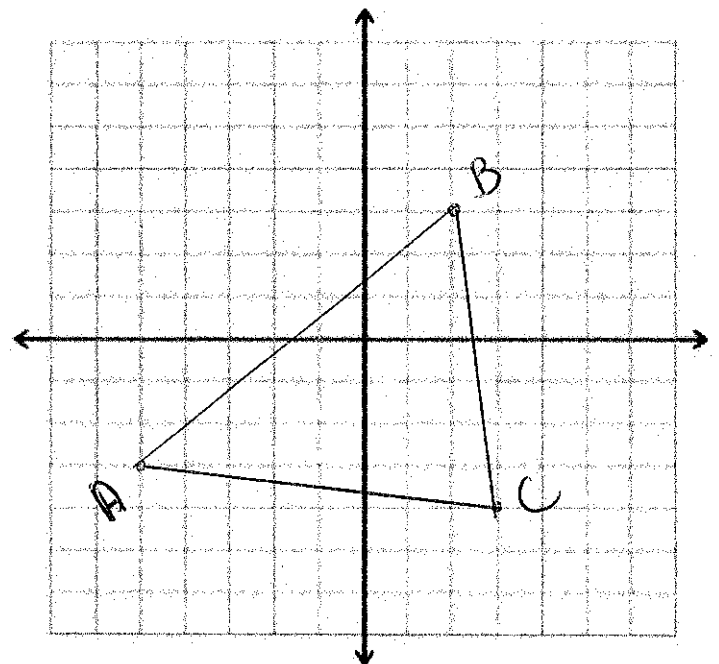
34. Find the area of the figure



35. find the perimeter of the figure



36. Find the midpoint of segment AB



37. List the three undefined terms in geometry:

38. Perpendicular lines intersect at _____ angles

39. What is the sum of the degrees in a triangle?

40. List the rigid motions that produce congruent triangles:
