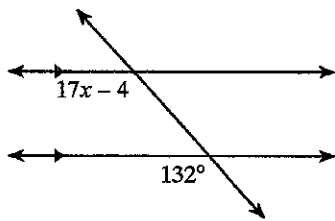


Midterm exam REVIEW

Solve for x .

1)



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

2) $y = -\frac{7}{3}x + 3$

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

3) $y = -x - 3$

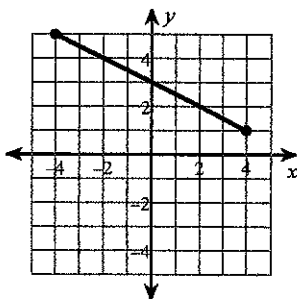
4) $y = x - 1$

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

5) $(-16, 13), (-2, 20)$

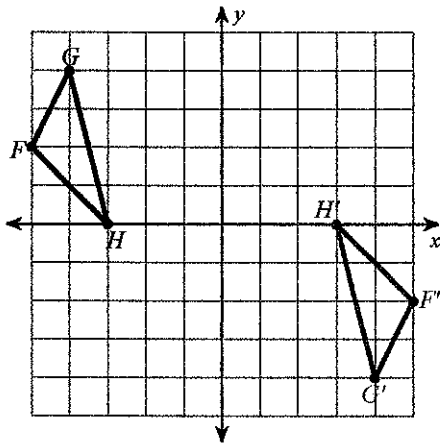
Find the midpoint of each line segment.

6)

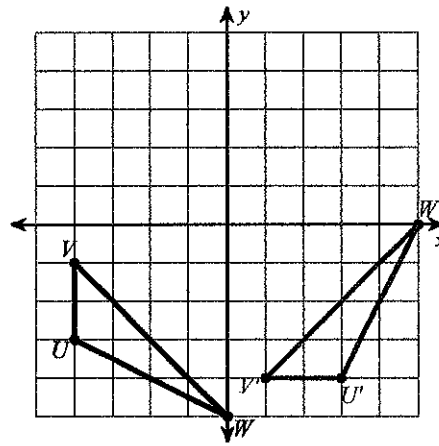


Write a rule to describe each transformation.

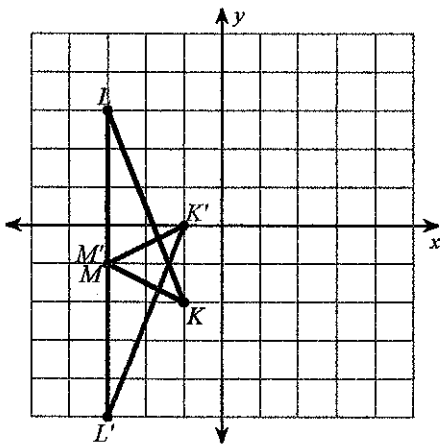
7)



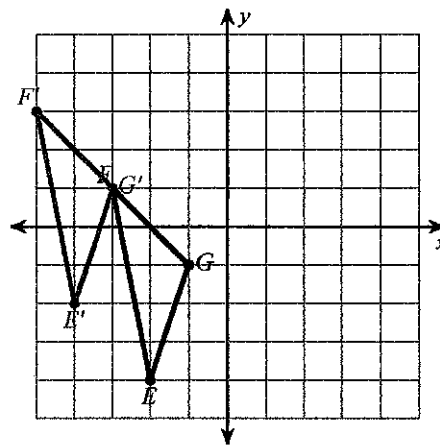
8)



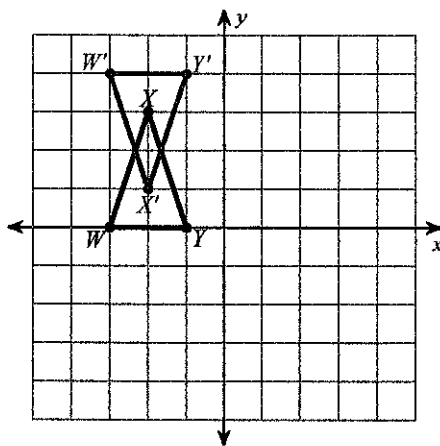
9)



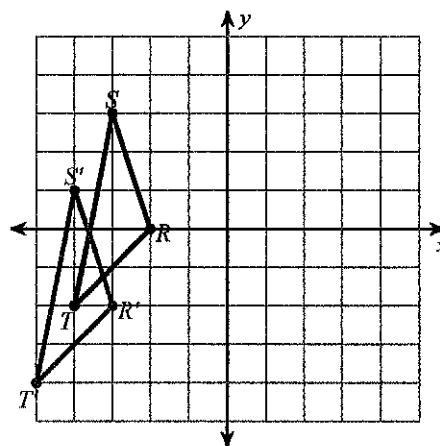
10)



11)

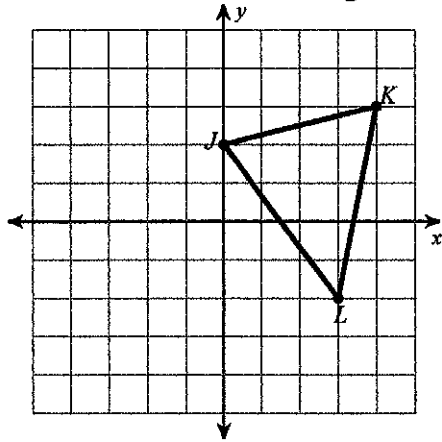


12)

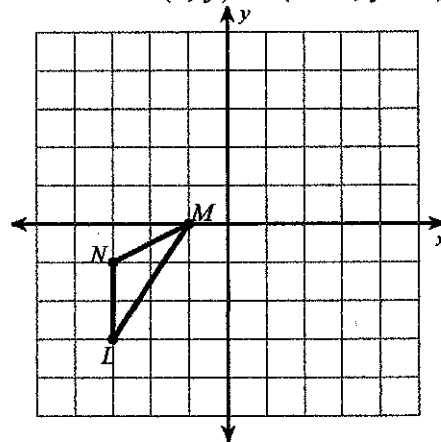


Find the coordinates of the vertices of each figure after the given transformation.

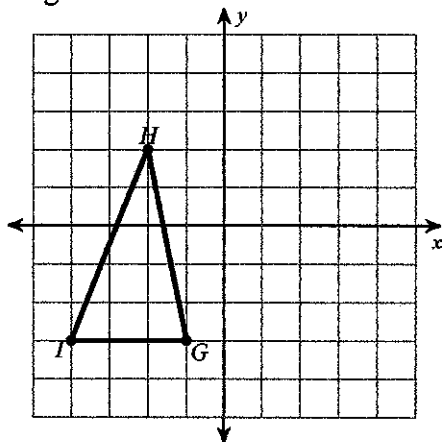
13) rotation 180° about the origin



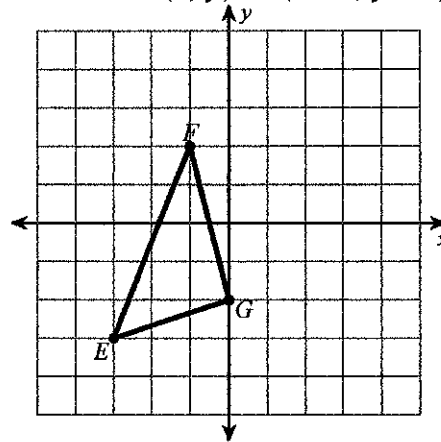
14) translation: $(x, y) \rightarrow (x + 1, y + 2)$



15) rotation 90° counterclockwise about the origin

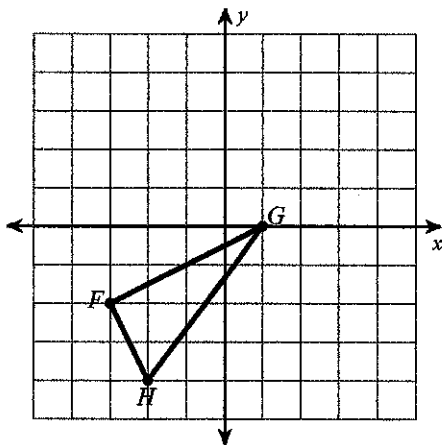


16) translation: $(x, y) \rightarrow (x - 2, y - 1)$

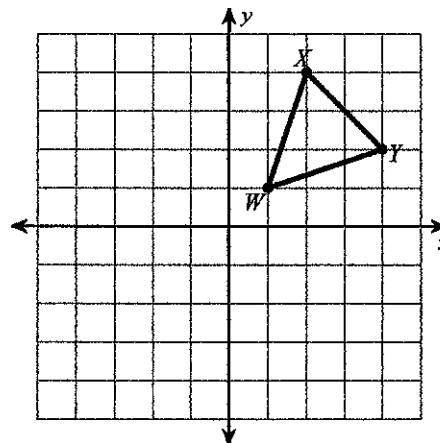


Graph the image of the figure using the transformation given.

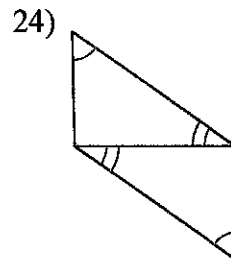
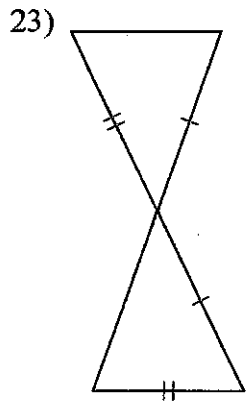
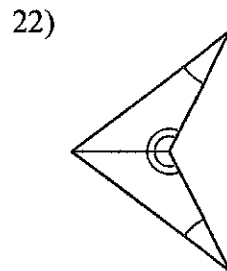
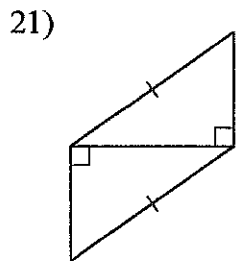
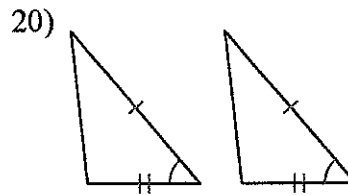
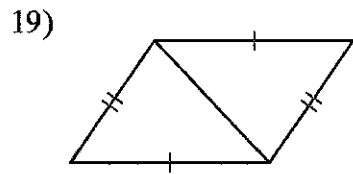
17) rotation 90° counterclockwise about the origin



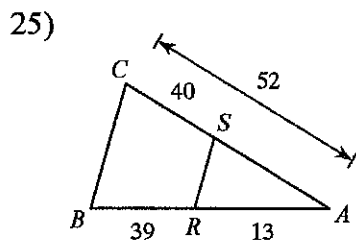
18) reflection across $y = -x$



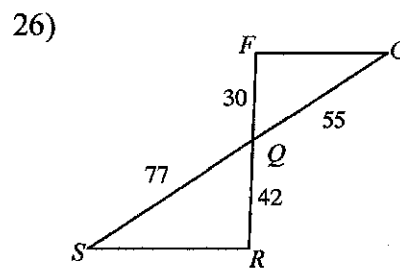
State if the two triangles are congruent. If they are, state how you know.



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

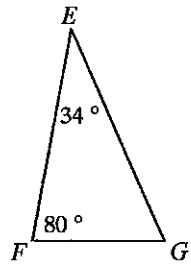
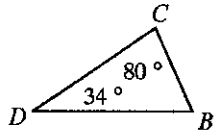


$\triangle ABC \sim$ _____



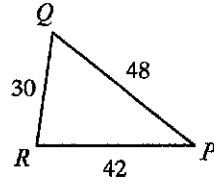
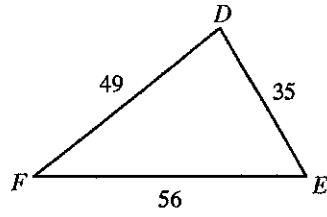
$\triangle QRS \sim$ _____

27)



$\triangle EFG \sim$ _____

28)



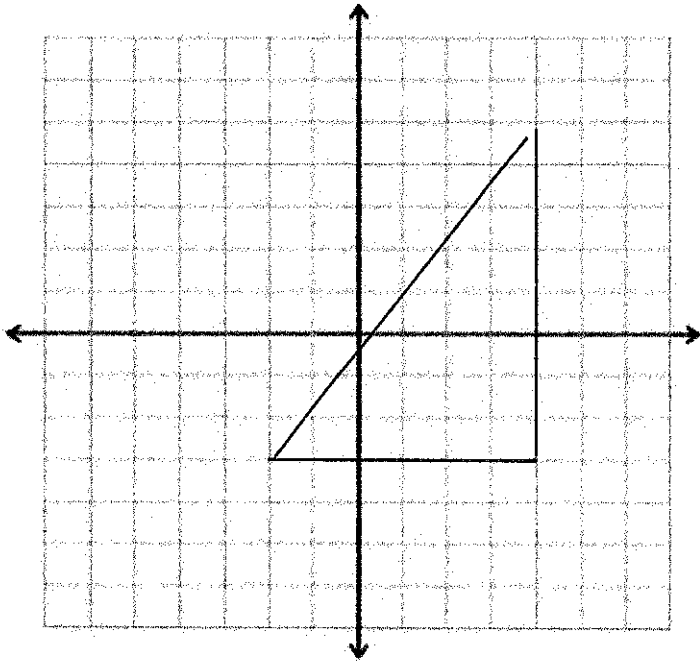
$\triangle DEF \sim$ _____

Solve each proportion.

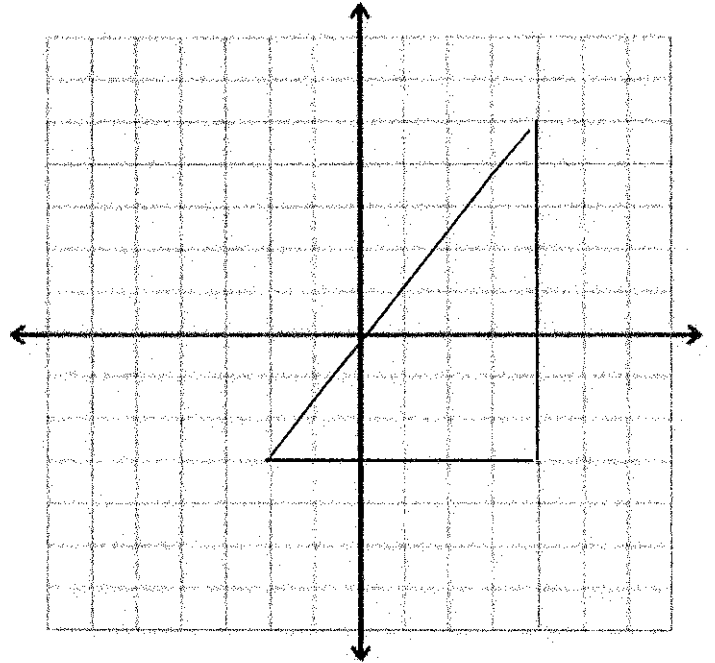
29) $\frac{4}{3} = \frac{n}{10}$

30) $\frac{m}{6} = \frac{8}{10}$

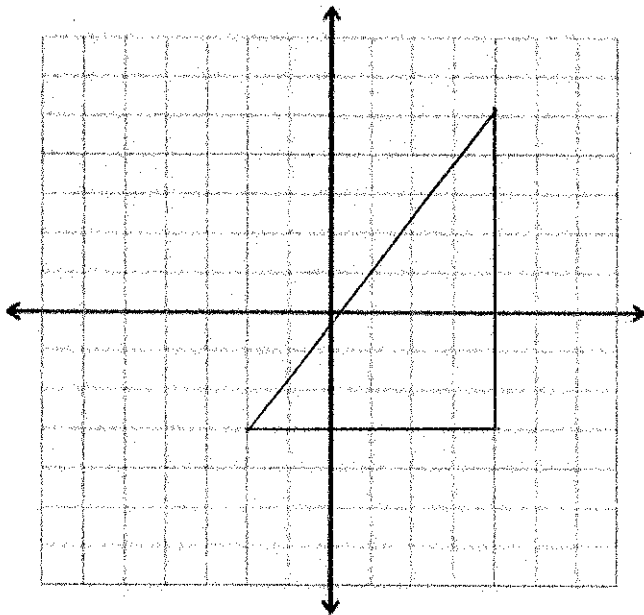
31. Find the circumcenter



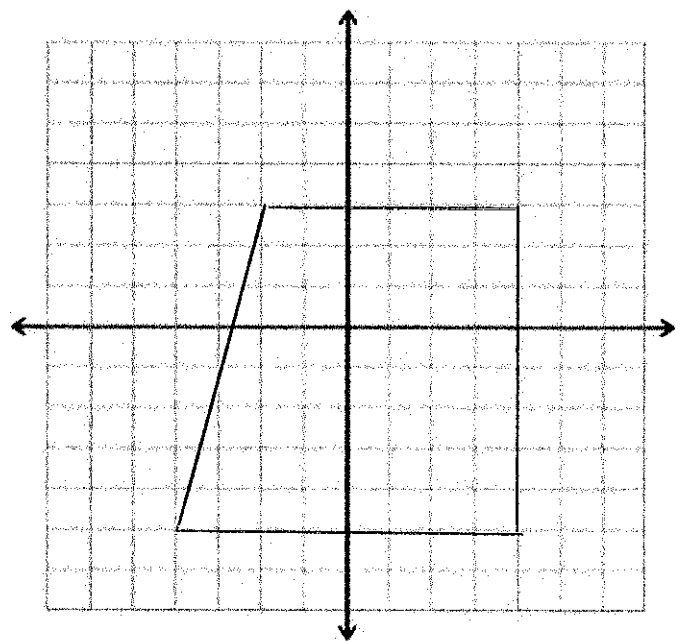
32. Find the area of the triangle



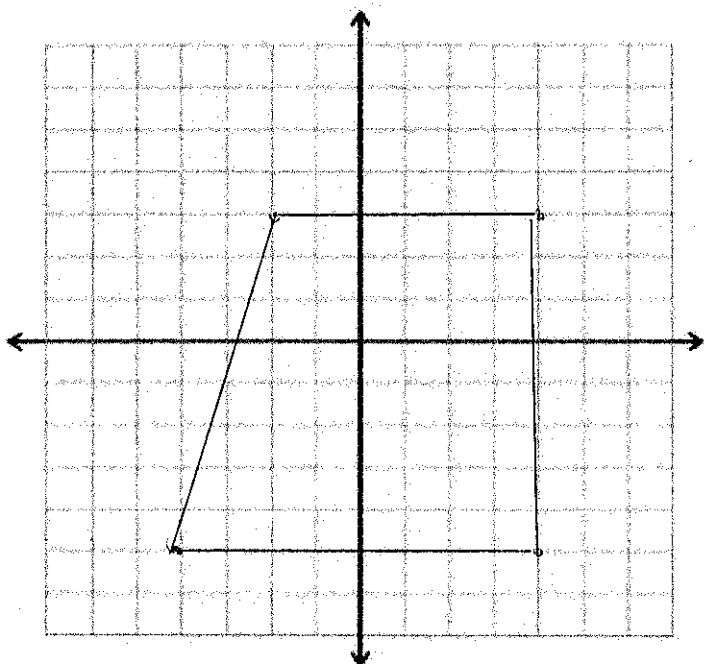
33. Find the perimeter of the triangle



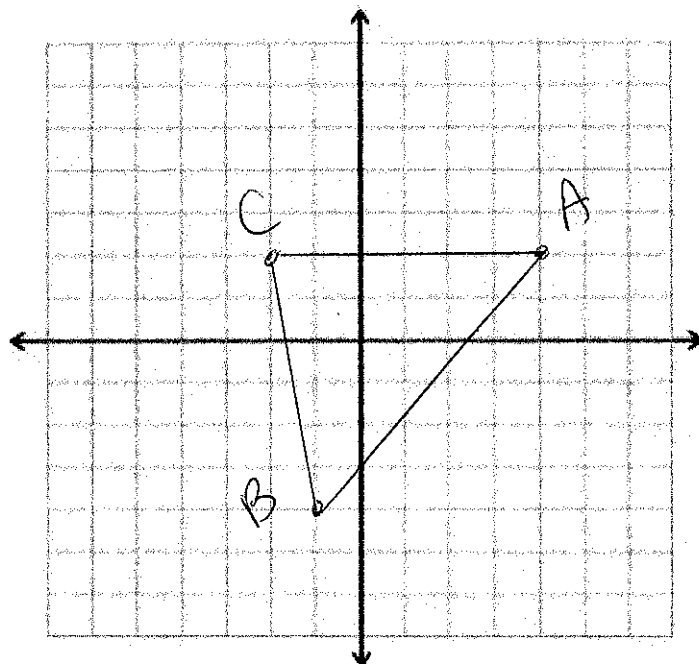
34. Find the area of the figure



35. find the perimeter of the figure



36. Find the midpoint of segment AB



37. List the three undefined terms in geometry:

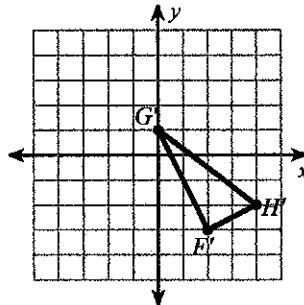
38. Perpendicular lines intersect at _____ angles

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

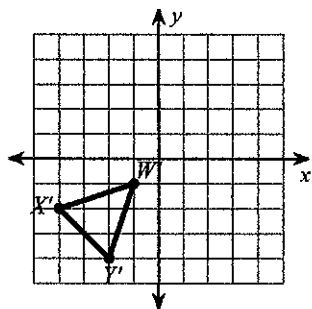
40. List the rigid motions that produce congruent triangles:

Answers to Midterm exam REVIEW (ID: 1)

- 1) 8 2) $-\frac{7}{3}$ 3) 1 4) -1
- 5) $\frac{1}{2}$ 6) (0, 3) 7) rotation 180° about the origin
- 8) rotation 90° counterclockwise about the origin
- 10) translation: $(x, y) \rightarrow (x - 2, y + 2)$
- 12) translation: $(x, y) \rightarrow (x - 1, y - 2)$
- 14) $N(-2, 1), M(0, 2), L(-2, -1)$
- 16) $E(-5, -4), F(-3, 1), G(-2, -3)$
- 11) reflection across $y = 2$
- 13) $J(0, -2), K(-4, -3), L(-3, 2)$
- 15) $I(3, -4), H(-2, -2), G(3, -1)$
- 17)



- 18) 19) SSS 20) SAS



- 21) HL 22) AAS 23) Not congruent 24) AAS
- 25) not similar 26) similar; SAS similarity; $\triangle QFG$
- 27) similar; AA similarity; $\triangle DCB$ 28) similar; SSS similarity; $\triangle RQP$
- 29) {13.33} 30) {4.8}

31) (1,1) 32) 24 33) 24 34) 56

35) 30.2 36) (1.5, -1)

37) point, line, plane 38) 90°

39) 180° 40) reflection
rotation
translation