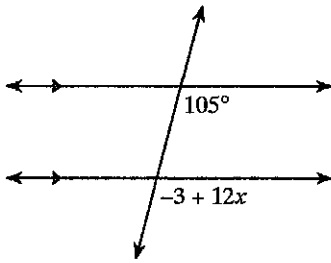


**Midterm exam REVIEW**

**Solve for x.**

1)



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

2)  $y = -2x - 4$

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

3)  $y = x - 3$

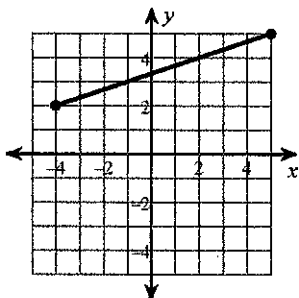
4)  $y = \frac{5}{2}x - 4$

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

5)  $(5, 16), (-11, 3)$

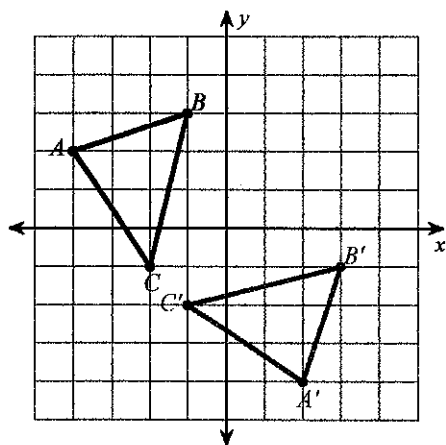
**Find the midpoint of each line segment.**

6)

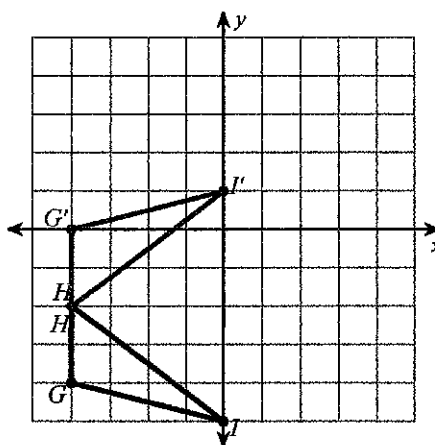


Write a rule to describe each transformation.

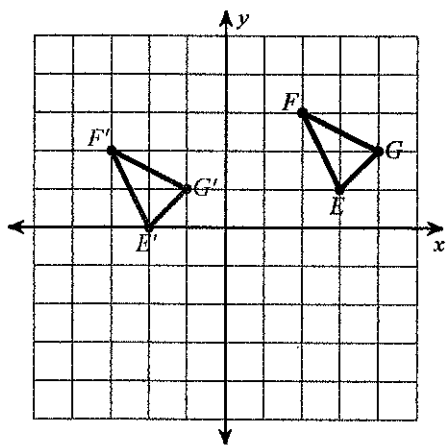
7)



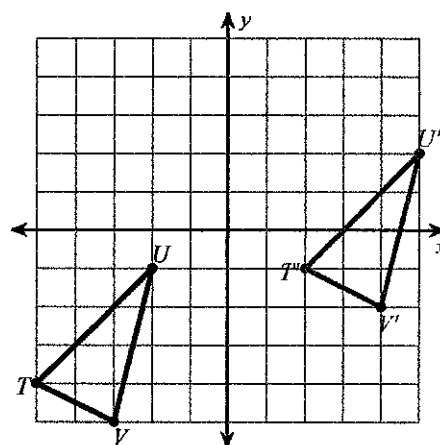
8)



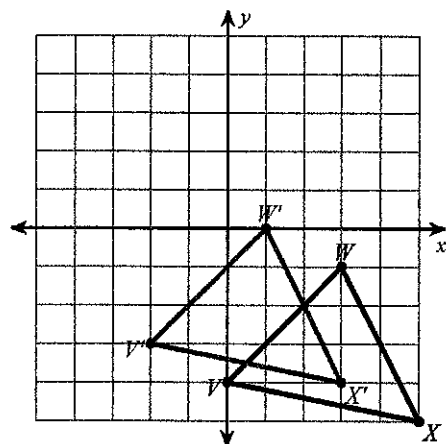
9)



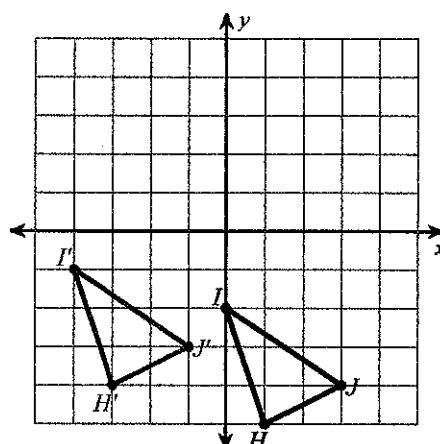
10)



11)

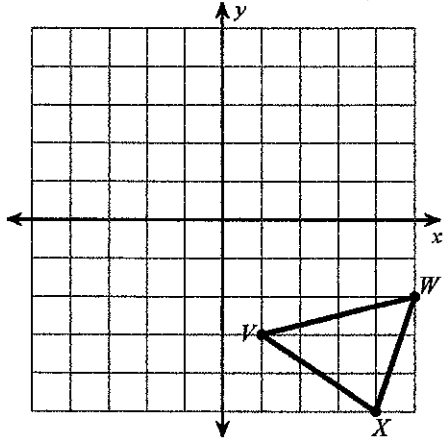


12)

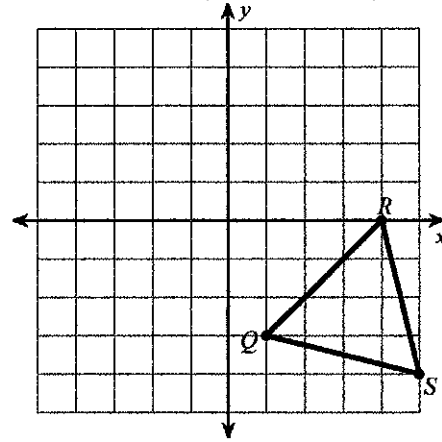


**Find the coordinates of the vertices of each figure after the given transformation.**

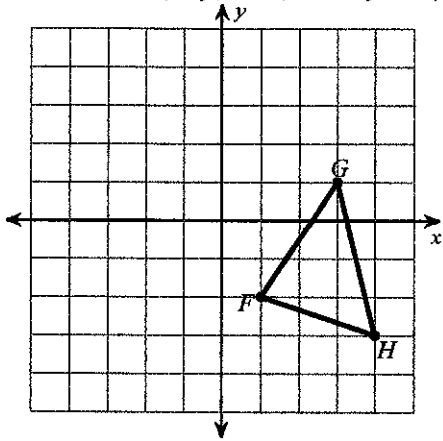
13) translation:  $(x, y) \rightarrow (x - 5, y)$



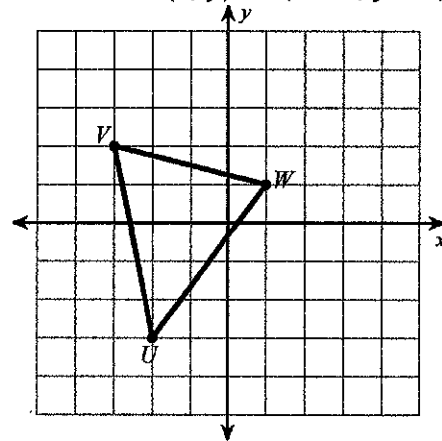
14) translation:  $(x, y) \rightarrow (x - 6, y)$



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

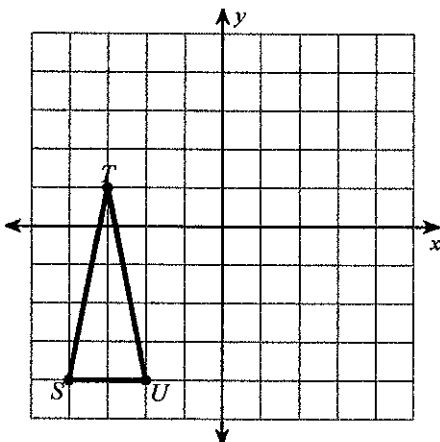


16) translation:  $(x, y) \rightarrow (x + 2, y - 2)$

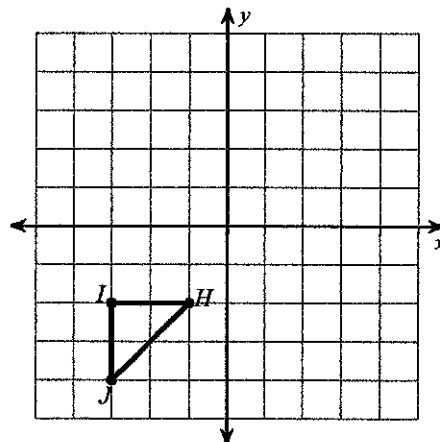


**Graph the image of the figure using the transformation given.**

17) reflection across  $y = x$

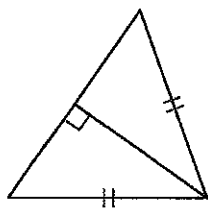


18) rotation  $180^\circ$  about the origin

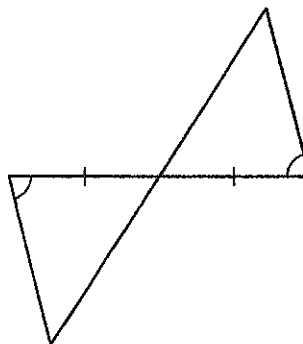


State if the two triangles are congruent. If they are, state how you know.

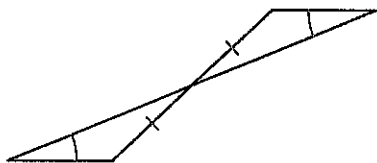
19)



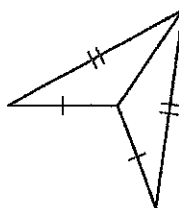
20)



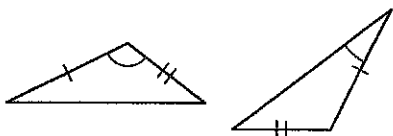
21)



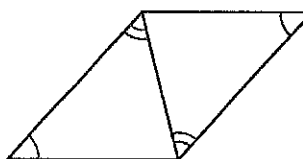
22)



23)

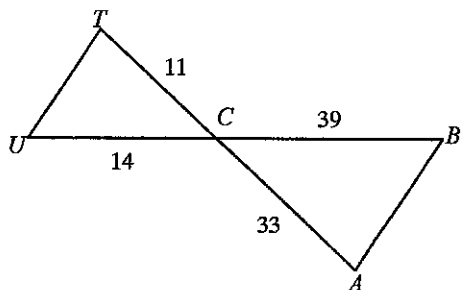


24)



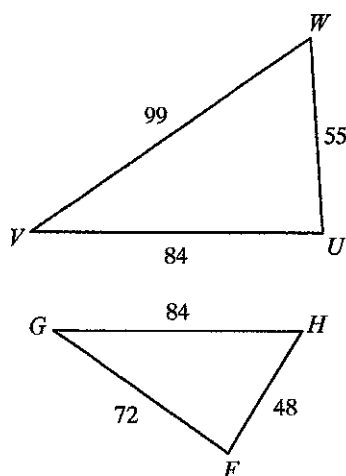
State if the triangles in each pair are similar. If so, state how you know they are similar and complete the similarity statement.

25)



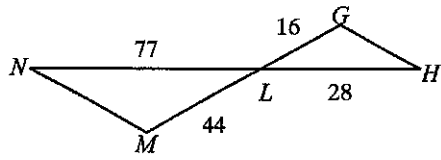
$\triangle CBA \sim$  \_\_\_\_\_

26)



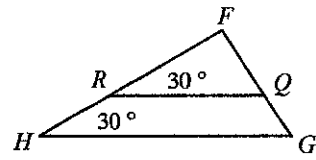
$\triangle UVW \sim$  \_\_\_\_\_

27)



$\triangle LMN \sim$  \_\_\_\_\_

28)



$\triangle FGH \sim$  \_\_\_\_\_

**Solve each proportion.**

29)  $\frac{9}{n} = \frac{7}{2}$

30)  $\frac{2}{10} = \frac{4}{k}$

## Answers to Midterm exam REVIEW (ID: 2)

1) 9

2) -2

3) -1

4)  $-\frac{2}{5}$

5)  $\frac{13}{16}$

6)  $(\frac{1}{2}, 3\frac{1}{2})$

7) reflection across  $y = x$

8) reflection across  $y = -2$

9) translation:  $(x, y) \rightarrow (x - 5, y - 1)$

10) translation:  $(x, y) \rightarrow (x + 7, y + 3)$

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

12) translation:  $(x, y) \rightarrow (x - 4, y + 1)$

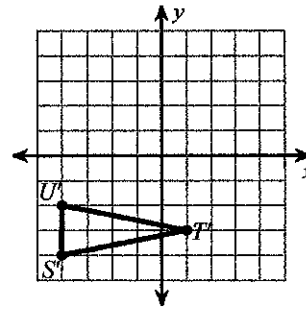
13)  $V(-4, -3), W(0, -2), X(-1, -5)$

14)  $Q(-5, -3), R(-2, 0), S(-1, -4)$

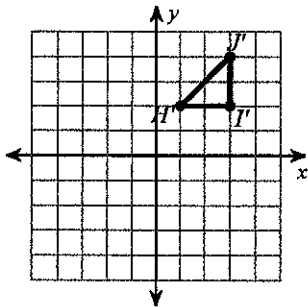
15)  $F(-1, -1), G(1, 2), H(2, -2)$

16)  $U(0, -5), V(-1, 0), W(3, -1)$

17)



18)



19) HL

20) ASA

21) AAS

22) SSS

23) Not congruent

24) AAS

25) not similar

26) not similar

27) similar; SAS similarity;  $\triangle LGH$

28) similar; AA similarity;  $\triangle FQR$

29)  $\{2.57\}$

30)  $\{20\}$