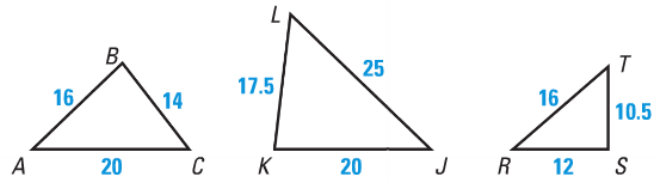
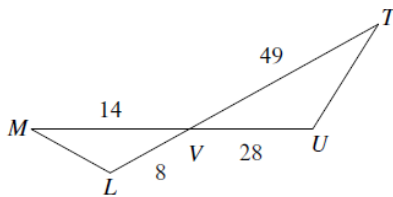


1. Please determine if any pairs of triangles are similar. If so, write a similarity statement. Show all work.

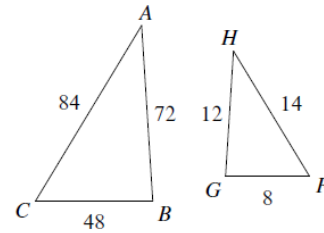


For exercises #2 – 5, determine whether the two triangles are similar. If they are similar, write a similarity statement and state the reason why.

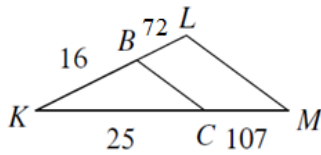
2.



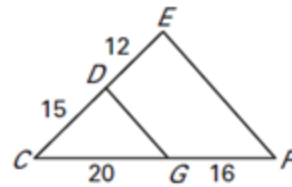
3.



4.

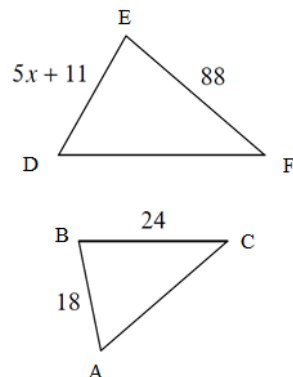


5.

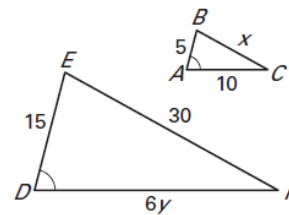


6. Find the value of the variables that make $\triangle ABC \sim \triangle DEF$.

a.



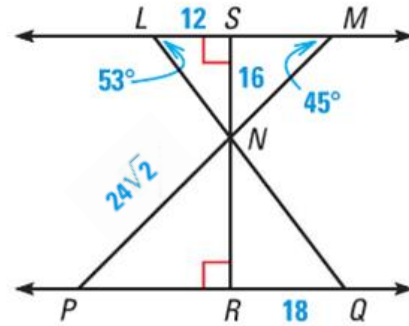
b.



7. In $\triangle RST$, $RS = 20$, $ST = 32$, and $m\angle S = 24^\circ$. In $\triangle FGH$, $FG = 30$, $GH = 48$, and $m\angle G = 24^\circ$. Explain whether the two triangles can be similar. If so, write a similarity statement and state the reason why.

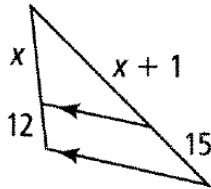
8. Given the diagram shown and $\overline{LM} \parallel \overline{PQ}$, complete the following statements.

- $m\angle NQP =$ _____
- $m\angle NPQ =$ _____
- $m\angle PNQ =$ _____
- $RN =$ _____
- $QN =$ _____
- $PR =$ _____

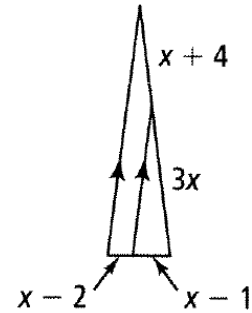


Using the diagrams below, please solve for x.

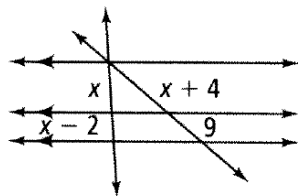
9.



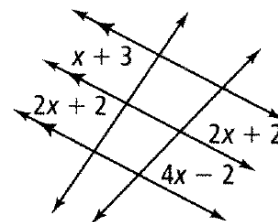
10.



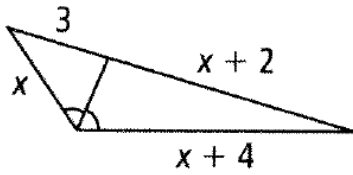
11.



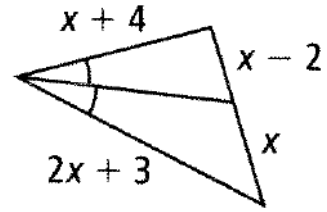
12.



13.



14.

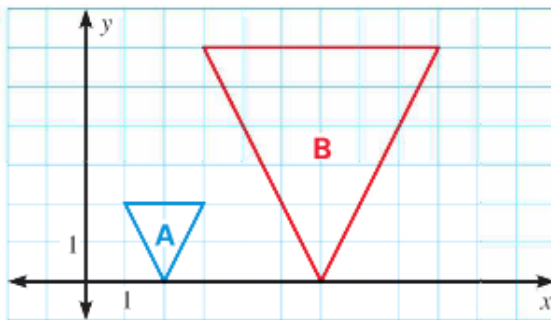


15. $\triangle GHI$ has vertices $G(0,5)$, $H(4,2)$, and $I(3,3)$. What are the vertices after the dilation with a scale factor of 9 using the origin as the center of dilation?

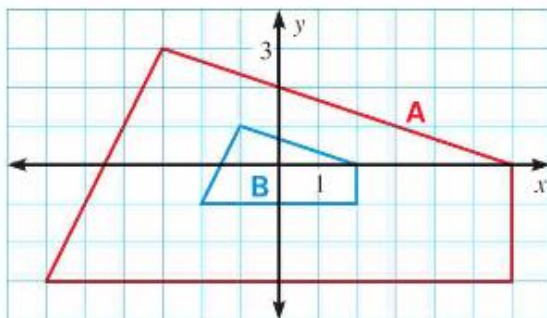
16. $\triangle ABC$ has vertices $A(0,20)$, $B(16,24)$, and $C(12,12)$. What are the vertices after the dilation with a scale factor of $\frac{3}{4}$ using the origin as the center of dilation?

Determine whether the dilation from Figure A to Figure B is a reduction or an enlargement. State the scale factor.

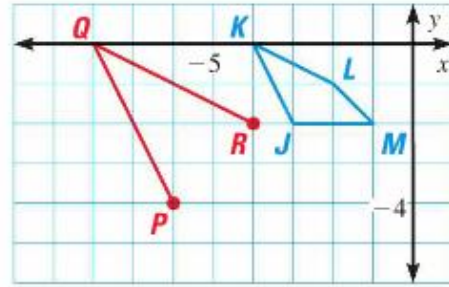
17.



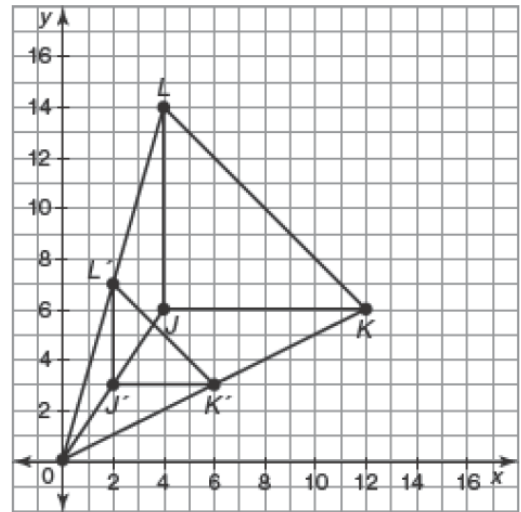
18.



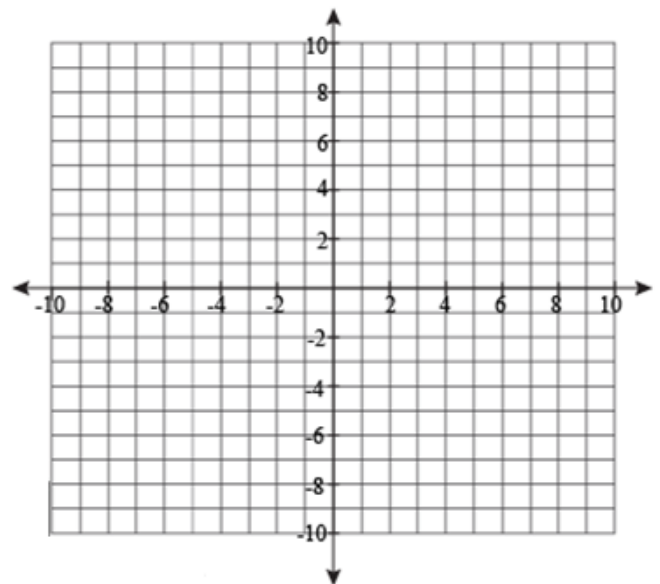
19. You want to create a quadrilateral PQRS that is similar to quadrilateral JKLM. What are the coordinates of S?



20. Given the image and the pre-image, determine the scale factor.



21. In $\triangle ABC$, the coordinates are $A(2, 6)$, $B(8, 7)$, and $C(4, 4)$. Dilate $\triangle ABC$ by a scale factor of 2 using $(8, 2)$ as the center of dilation.



Answer Key :

1. $\triangle ABC \sim \triangle JKL$ by SSS Similarity
2. $\triangle MLV \sim \triangle TUV$ by SAS Similarity
3. $\triangle FGH \sim \triangle CBA$ by SSS Similarity
4. Not Similar
5. $\triangle GCD \sim \triangle FCE$ by SAS Similarity
6. a. $x = 11$ b. $x = 10, y = 5$
7. $\triangle RST \sim \triangle FGH$ by SAS Similarity
8. a. 53° , b. 45° , c. 82° , d. 24 , e. 30 , f. 24
9. $x = 4$
10. $x = \frac{1}{2}$, $x = 4$
11. $x = -1$, $x = 8$
12. $x = 5$
13. $x = -3$, $x = 4$
14. $x = -1$, $x = 6$
15. $G'(0,45), H'(36,18), I'(27,27)$
16. $A'(0,15), B'(12,18), C'(9,9)$
17. Enlargement, Scale factor : 3
18. Reduction, Scale factor : $\frac{1}{3}$
19. $S(-2, -4)$
20. $k = \frac{1}{2}$
21. $A'(-4,10), B'(8,12), C'(0,6)$