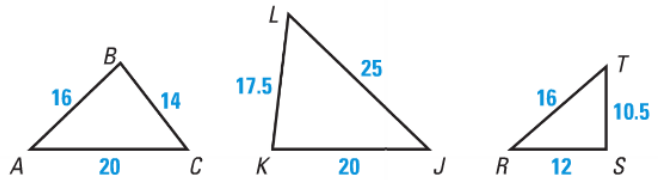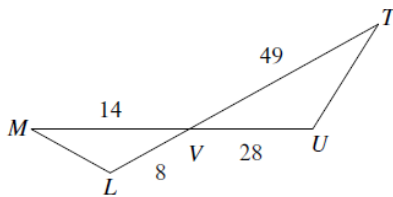1. Please determine if any pairs of triangles are similar. If so, write a similarity statement. Show all work.
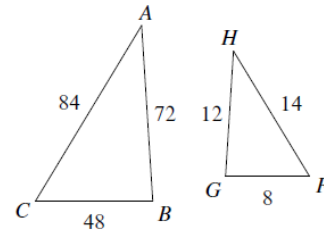

For exercises #2 – 5, determine whether the two triangles are similar. If they are similar, write a similarity statement and state the reason why.
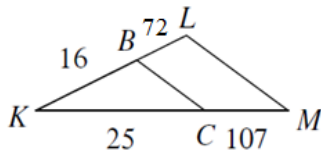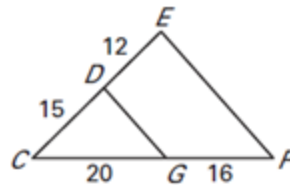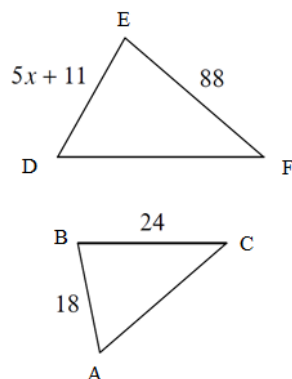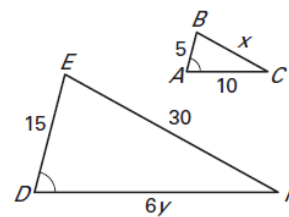
2.

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 $m\angle S = 24°$. In $\triangle FGH$, $FG = 30$, $GH = 48$, and $m\angle G = 24°$. Explain whether the two triangles can be similar. If so, write a similarity statement and state the reason why.

8. $\triangle GHI$ 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?

9. $\triangle ABC$ has vertices $A(0,20)$, $B(16,24)$, and $C(12,12)$. What are the vertices after the dilation with a scale factor of ¾ using the origin as the center of dilation?
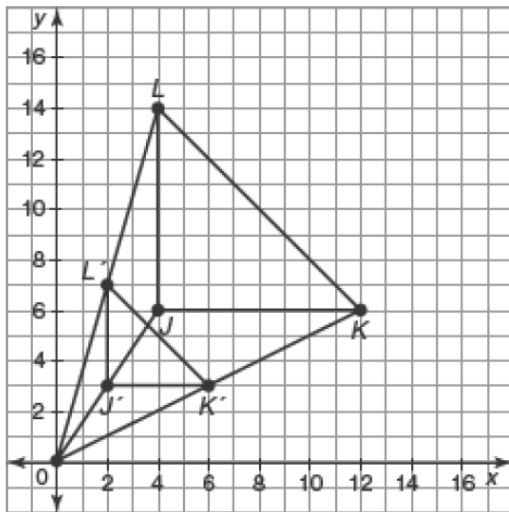
Determine whether the dilation from Figure A to Figure B is a reduction or an enlargement. State the scale factor.

10.

11.
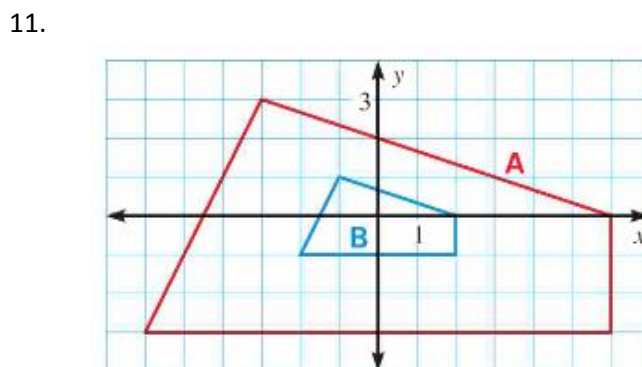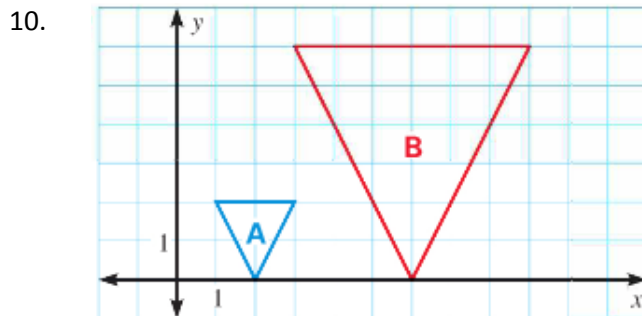
12. You want to create a quadrilateral PQRS that is similar to quadrilateral JKLM. What are the coordinates of S?
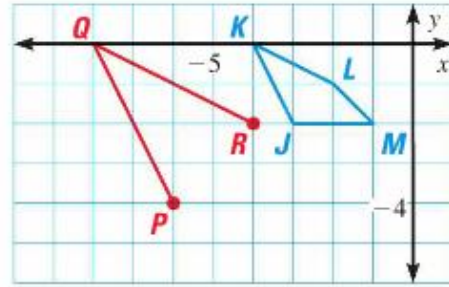
13. Given the image and the pre-image, determine the scale factor.

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. $G'(0,45),\ H'(36,18),\ I'(27,27)$

9. $A'(0,15),\ B'(12,18),\ C'(9,9)$

10. Enlargement, Scale factor : 3

11. Reduction, Scale factor : $\dfrac{1}{3}$

12. $S(-2,-4)$

13. $k = \dfrac{1}{2}$