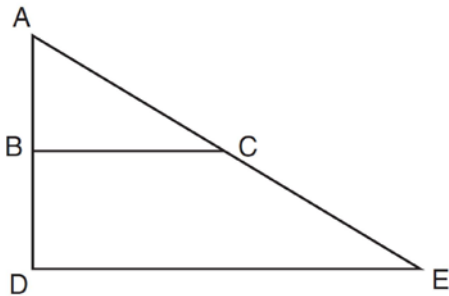


G.SRT.A.2: Dilations 1

- 1 Triangle $A'B'C'$ is the image of $\triangle ABC$ after a dilation of 2. Which statement is true?
- 1) $AB = A'B'$
 - 2) $BC = 2(B'C')$
 - 3) $m\angle B = m\angle B'$
 - 4) $m\angle A = \frac{1}{2}(m\angle A')$
- 2 If $\triangle ABC$ is dilated by a scale factor of 3, which statement is true of the image $\triangle A'B'C'$?
- 1) $3A'B' = AB$
 - 2) $B'C' = 3BC$
 - 3) $m\angle A' = 3(m\angle A)$
 - 4) $3(m\angle C') = m\angle C$
- 3 The image of $\triangle ABC$ after a dilation of scale factor k centered at point A is $\triangle ADE$, as shown in the diagram below.

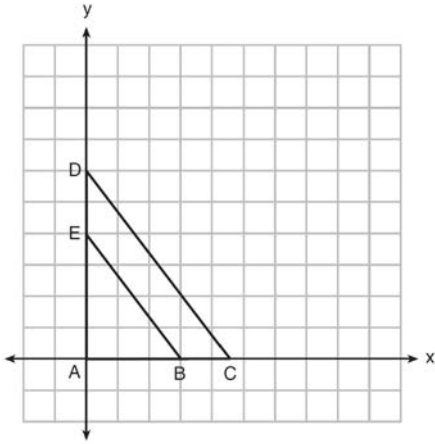


Which statement is always true?

- 1) $\overline{2AB} = \overline{AD}$
- 2) $\overline{AD} \perp \overline{DE}$
- 3) $\overline{AC} = \overline{CE}$
- 4) $\overline{BC} \parallel \overline{DE}$

- 4 A triangle is dilated by a scale factor of 3 with the center of dilation at the origin. Which statement is true?
- 1) The area of the image is nine times the area of the original triangle.
 - 2) The perimeter of the image is nine times the perimeter of the original triangle.
 - 3) The slope of any side of the image is three times the slope of the corresponding side of the original triangle.
 - 4) The measure of each angle in the image is three times the measure of the corresponding angle of the original triangle.

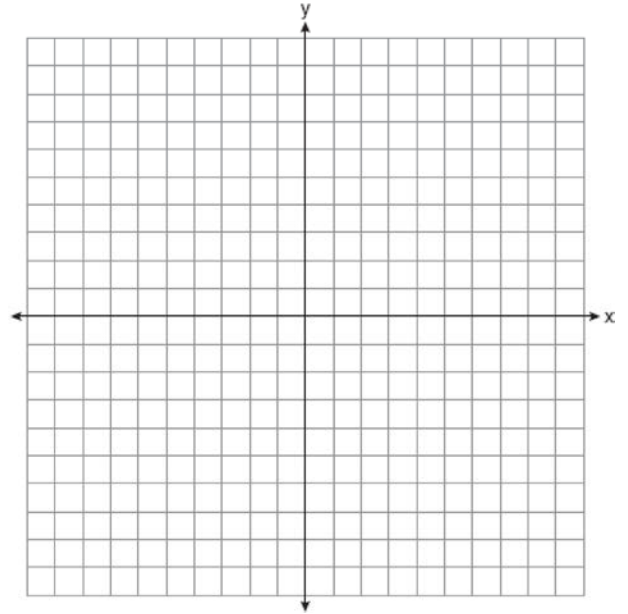
- 5 In the diagram below, $\triangle ABE$ is the image of $\triangle ACD$ after a dilation centered at the origin. The coordinates of the vertices are $A(0,0)$, $B(3,0)$, $C(4.5,0)$, $D(0,6)$, and $E(0,4)$.



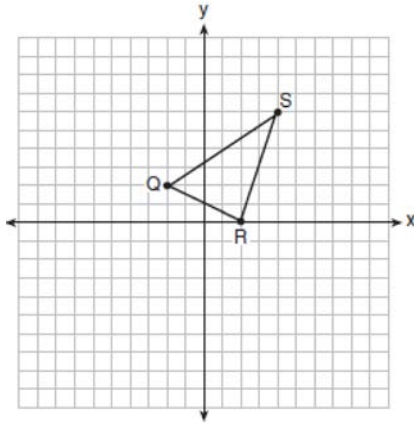
The ratio of the lengths of \overline{BE} to \overline{CD} is

- 1) $\frac{2}{3}$
- 2) $\frac{3}{2}$
- 3) $\frac{3}{4}$
- 4) $\frac{4}{3}$

- 6 The coordinates of the endpoints of \overline{AB} are $A(2,3)$ and $B(5,-1)$. Determine the length of $\overline{A'B'}$, the image of \overline{AB} , after a dilation of $\frac{1}{2}$ centered at the origin. [The use of the set of axes below is optional.]

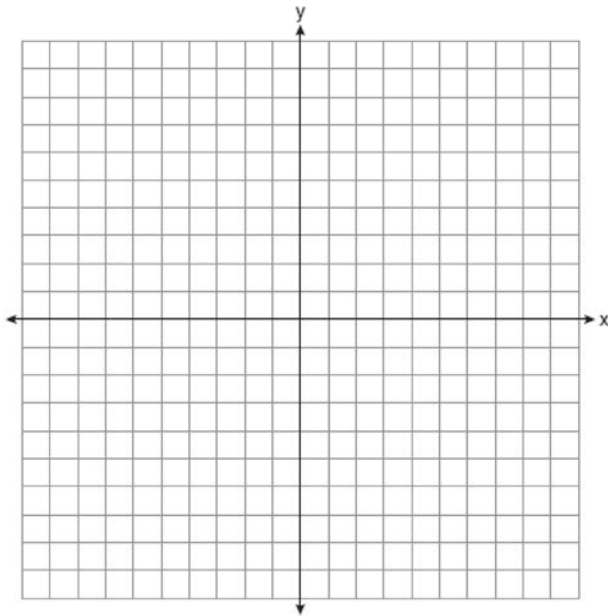


- 7 Triangle QRS is graphed on the set of axes below.

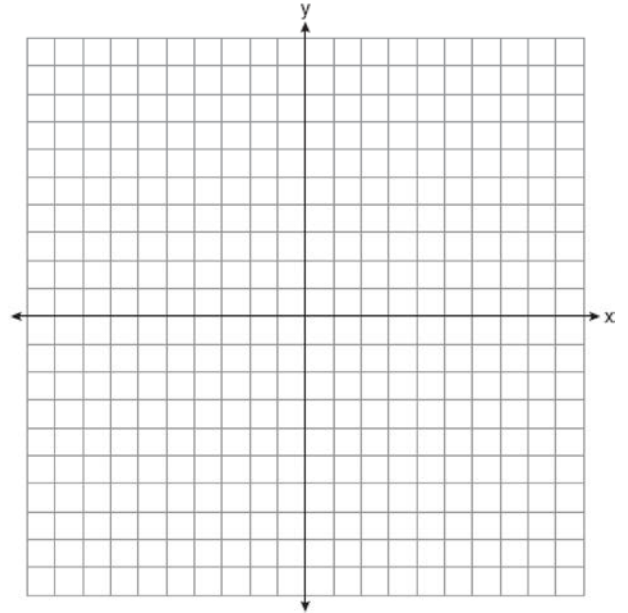


On the same set of axes, graph and label $\triangle Q'R'S'$, the image of $\triangle QRS$ after a dilation with a scale factor of $\frac{3}{2}$ centered at the origin. Use slopes to explain why $Q'R' \parallel QR$.

- 8 Triangle ABC has coordinates $A(-2, 1)$, $B(3, 1)$, and $C(0, -3)$. On the set of axes below, graph and label $\triangle A'B'C'$, the image of $\triangle ABC$ after a dilation of 2.



- 9 Triangle ABC has coordinates $A(6, -4)$, $B(0, 2)$, and $C(6, 2)$. On the set of axes below, graph and label $\triangle A'B'C'$, the image of $\triangle ABC$ after a dilation of $\frac{1}{2}$.



- 10 Triangle ABC has vertices $A(6, 6)$, $B(9, 0)$, and $C(3, -3)$. State and label the coordinates of $\triangle A'B'C'$, the image of $\triangle ABC$ after a dilation of $D_{\frac{1}{3}}$.

G.SRT.A.2: Dilations 1

Answer Section

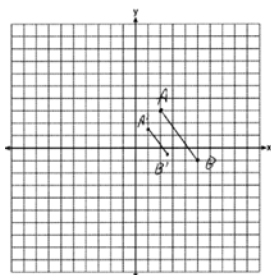
- 1 ANS: 3 REF: 011524ge
 2 ANS: 2 REF: 061516geo
 3 ANS: 4 REF: 081506geo
 4 ANS: 1
 $3^2 = 9$

REF: 081520geo

- 5 ANS: 1
 $\frac{4}{6} = \frac{3}{4.5} = \frac{2}{3}$

REF: 081523geo

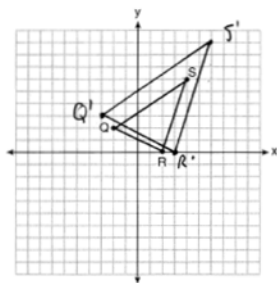
- 6 ANS:



$$\sqrt{(2.5 - 1)^2 + (-.5 - 1.5)^2} = \sqrt{2.25 + 4} = 2.5$$

REF: 081729geo

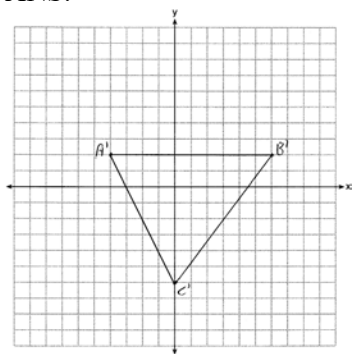
- 7 ANS:



A dilation preserves slope, so the slopes of \overline{QR} and $\overline{Q'R'}$ are equal. Because the slopes are equal, $Q'R' \parallel QR$.

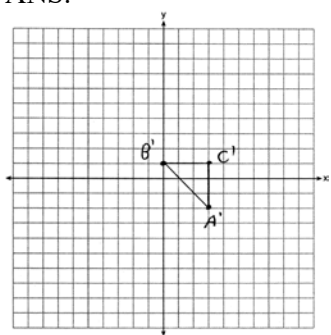
REF: 011732geo

8 ANS:



REF: 081429ge

9 ANS:



REF: 011630ge

10 ANS:

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

REF: 081329ge