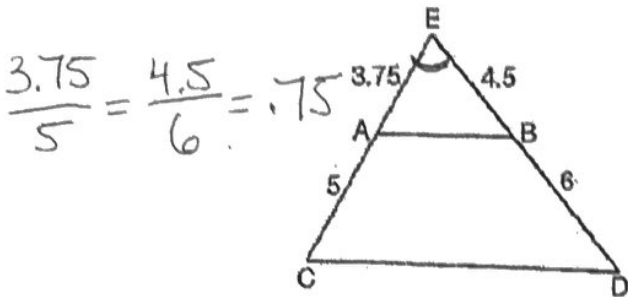


18. In $\triangle CED$ as shown below, points A and B are located on sides \overline{CE} and \overline{ED} , respectively. Line segment \overline{AB} is drawn such that $AE = 3.75$, $AC = 5$, $EB = 4.5$, and $BD = 6$.



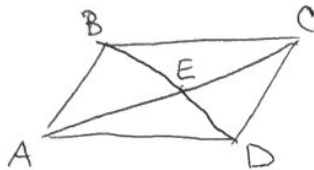
$$\frac{3.75}{5} = \frac{4.5}{6} = .75$$

Explain why \overline{AB} is parallel to \overline{CD} .

$\triangle AEB \sim \triangle CED$ because SAS. The sides are proportional & they share $\angle E$. Therefore,

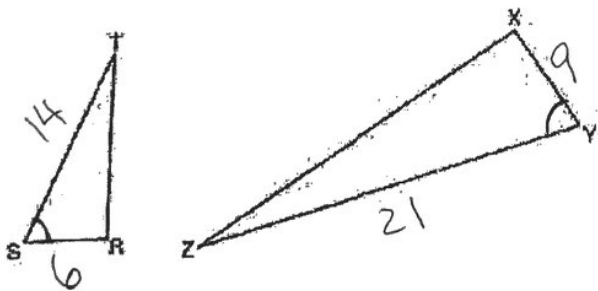
20. In parallelogram $ABCD$, diagonals \overline{AC} and \overline{BD} intersect at E . Which statement does not prove parallelogram $ABCD$ is a rhombus?

- 1) $\overline{AC} \cong \overline{DB}$
- 2) $\overline{AB} \cong \overline{BC}$
- 3) $\overline{AC} \perp \overline{DB}$
- 4) \overline{AC} bisects $\angle DCB$



22.

Triangles RST and XYZ are drawn below. If $RS = 6$, $ST = 14$, $XY = 9$, $YZ = 21$, and $\angle S \cong \angle Y$, is $\triangle RST$ similar to $\triangle XYZ$? Justify your answer.

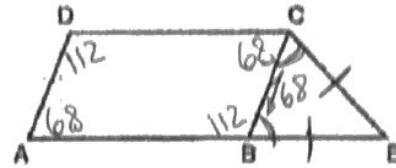


$$\frac{6}{9} = \frac{2}{3} \quad \frac{14}{21} = \frac{2}{3}$$

Yes, $\triangle RST \sim \triangle XYZ$ because of SAS.

Sides are proportional & 1 congruent angle

19. In the diagram below, $ABCD$ is a parallelogram, \overline{AB} is extended through B to E , and \overline{CE} is drawn.

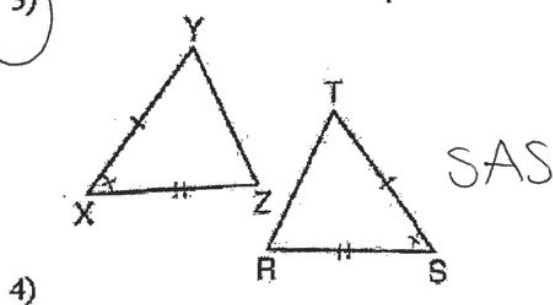
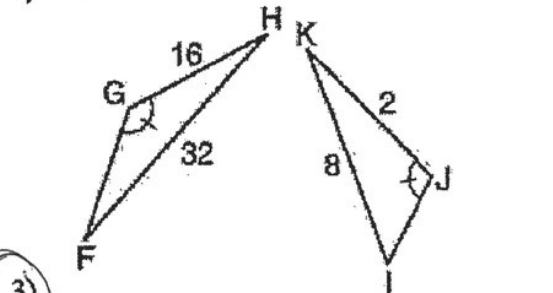
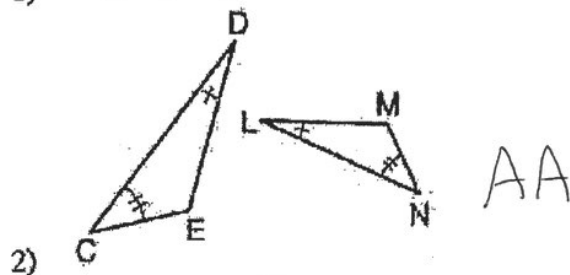
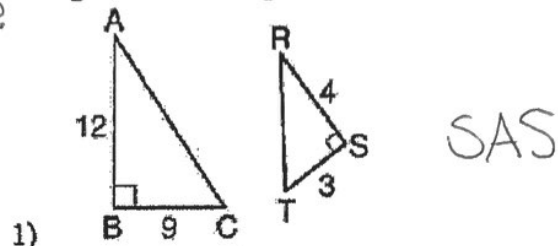


If $\overline{CE} \cong \overline{BE}$ and $m\angle D = 112^\circ$, what is $m\angle E$?

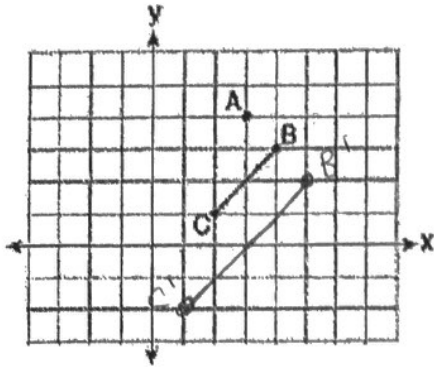
- 1) 44°
- 2) 56°
- 3) 68°
- 4) 112°

$$\begin{array}{r} 180 \\ - 136 \\ \hline 44^\circ \end{array}$$

Using the information given below, which set of triangles can not be proven similar?



23. On the graph below, point $A(3, 4)$ and \overline{BC} with coordinates $B(4, 3)$ and $C(2, 1)$ are graphed.

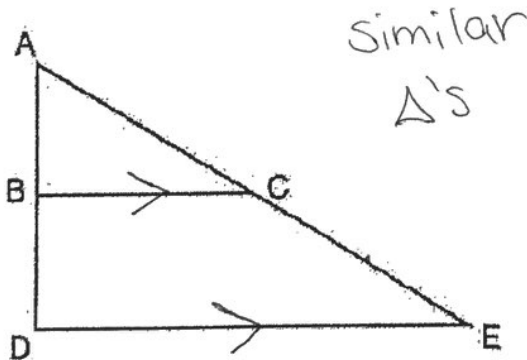


What are the coordinates of B' and C' after \overline{BC} undergoes a dilation centered at point A with a scale factor of 2?

- 1) $B'(5, 2)$ and $C'(1, -2)$
- 2) $B'(6, 1)$ and $C'(0, -1)$
- 3) $B'(5, 0)$ and $C'(1, -2)$
- 4) $B'(5, 2)$ and $C'(3, 0)$

25.

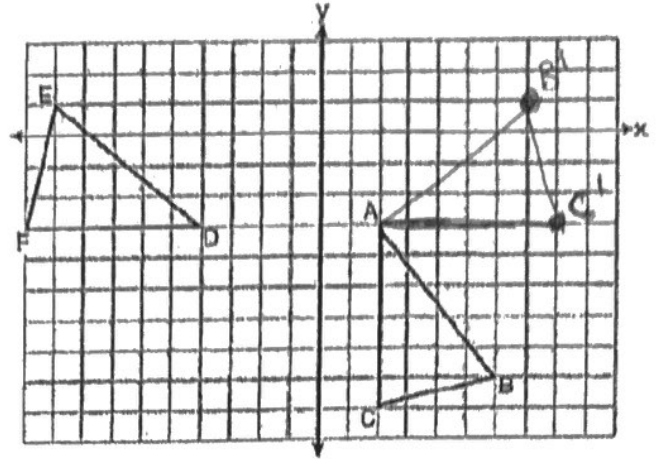
The image of $\triangle ABC$ after a dilation of scale factor k centered at point A is $\triangle ADE$, as shown in the diagram below.



Which statement is always true?

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

24. The grid below shows $\triangle ABC$ and $\triangle DEF$.



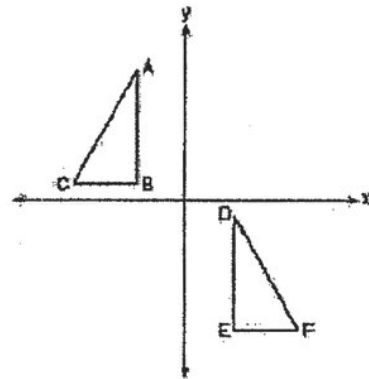
Let $\triangle A'B'C'$ be the image of $\triangle ABC$ after a rotation about point A . Determine and state the location of B' if the location of point C' is $(8, -3)$. Explain your answer. Is $\triangle DEF$ congruent to $\triangle A'B'C'$? Explain your answer.

$B'(7, 1)$

$R_{A, 90^\circ}$

26.

In the diagram below, $\triangle ABC \cong \triangle DEF$.



Which sequence of transformations maps $\triangle ABC$ onto $\triangle DEF$?

- 1) a reflection over the x -axis followed by a translation
- 2) a reflection over the y -axis followed by a translation
- 3) a rotation of 180° about the origin followed by a translation
- 4) a counterclockwise rotation of 90° about the origin followed by a translation