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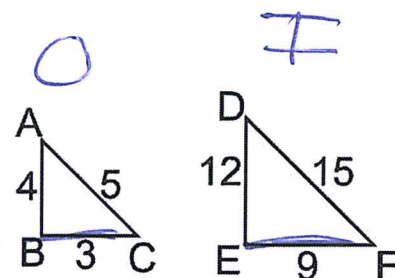
Date \_\_\_\_\_  
Geometry

### Scale Factor

1. In the diagram below,  $\triangle DEF$  is the image of  $\triangle ABC$  after a dilation.

What is the scale factor of the dilation?

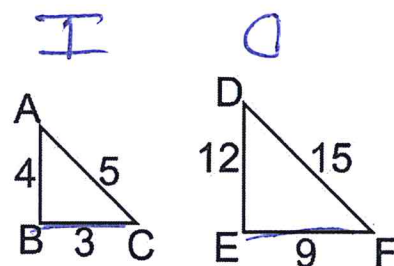
$$\frac{\text{image}}{\text{original}} \quad \frac{9}{3} = 3$$



2. In the diagram below,  $\triangle ABC$  is the image of  $\triangle DEF$  after a dilation.

What is the scale factor of the dilation?

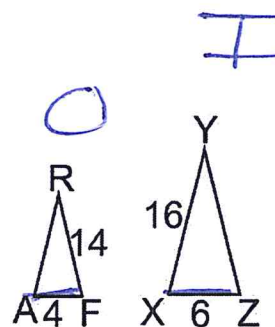
$$\frac{\text{image}}{\text{original}} \quad \frac{3}{9} = \frac{1}{3}$$



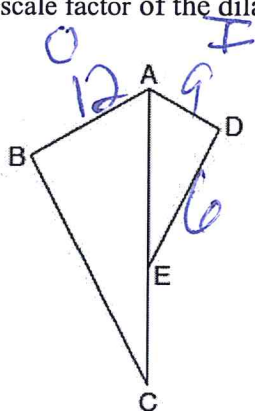
3. In the diagram below,  $\triangle XYZ$  is the image of  $\triangle RPF$  after a dilation.

What is the scale factor of the dilation?

$$\frac{\text{image}}{\text{original}} \quad \frac{6}{4} = \frac{3}{2}$$

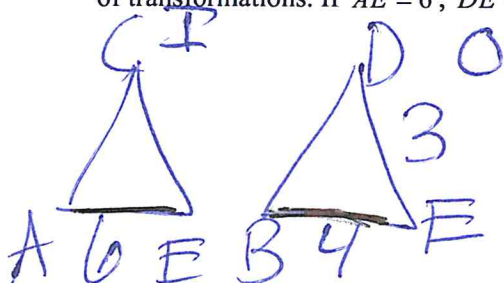


4. In the diagram below,  $\triangle ADE$  is the image of  $\triangle ABC$  after a reflection over the line  $AC$  followed by a dilation centered at point  $A$ . If  $\overline{AB} = 12$ ,  $\overline{DE} = 6$ , and  $\overline{AD} = 9$ , what is the scale factor of the dilation?



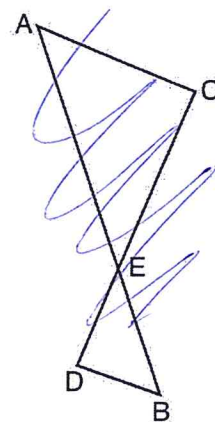
$$\frac{\text{image}}{\text{original}} \quad \frac{9}{12} = \left(\frac{3}{4}\right)$$

5. In the diagram below,  $\triangle ACE$  is the image of  $\triangle BDE$  after a sequence of transformations. If  $\overline{AE} = 6$ ,  $\overline{DE} = 3$ , and  $\overline{EB} = 4$ , what is the scale factor?

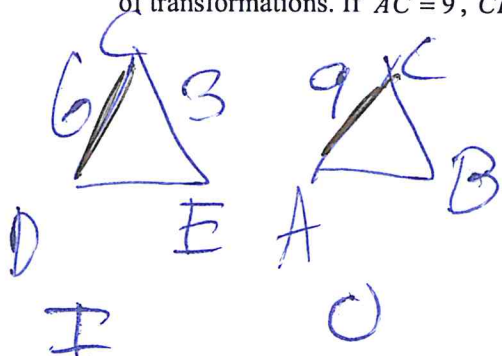


$$\frac{\text{image}}{\text{original}}$$

$$\frac{6}{4} = \frac{3}{2}$$

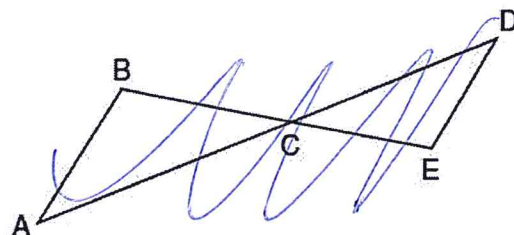


6. In the diagram below,  $\triangle DCE$  is the image of  $\triangle ACB$  after a sequence of transformations. If  $\overline{AC} = 9$ ,  $\overline{CE} = 3$ , and  $\overline{CD} = 6$ , what is the scale factor?



$$\frac{\text{image}}{\text{original}}$$

$$\frac{6}{9} = \frac{2}{3}$$



7. After a dilation with center  $(0,0)$ , the image of  $\overline{DB}$  is  $\overline{D'B'}$ . If  $DB = 4.5$  and  $D'B' = 18$ , what is the scale factor of this dilation?

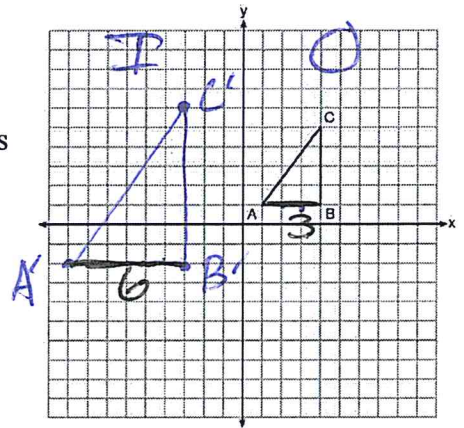
$$\frac{\text{image}}{\text{original}} \quad \frac{18}{4.5} = 4$$

8.  $\overline{DR}$  is dilated centered at point D such that  $\overline{DR} = 8$  and  $\overline{D'R'} = 12$ . What is the scale factor of the dilation?

$$\frac{\text{image}}{\text{original}} \quad \frac{12}{8} = \frac{3}{2}$$

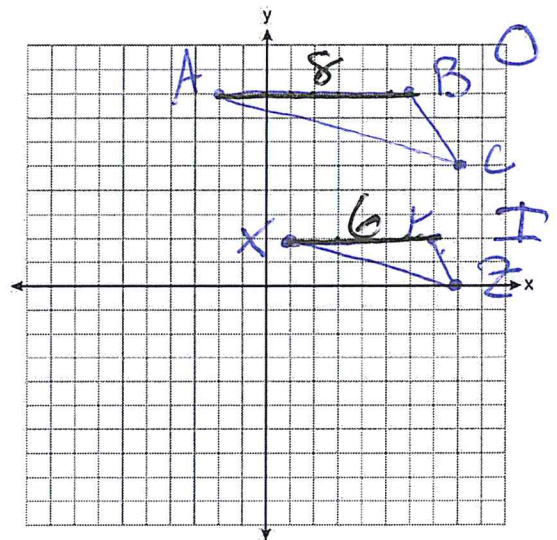
9. In the diagram below,  $\triangle ABC$  has coordinates  $A(1,1)$ ,  $B(4,1)$ , and  $C(4,5)$ . The coordinates of its image after a sequence of transformations is  $A'(-9,-2)$ ,  $B'(-3,-2)$ , and  $C'(-3,6)$ . What is the scale factor?

$$\frac{\text{image}}{\text{original}} \quad \frac{6}{3} = 2$$



10.  $\triangle ABC$  has coordinates  $A(-2,8)$ ,  $B(6,8)$ , and  $C(8,5)$ . The coordinates of  $\triangle XYZ$ , the image of  $\triangle ABC$  after a sequence of transformations is  $X(1,2)$ ,  $Y(7,2)$ , and  $Z(8,0)$ . What is the scale factor?

$$\frac{\text{image}}{\text{original}} \quad \frac{6}{8} = \frac{3}{4}$$

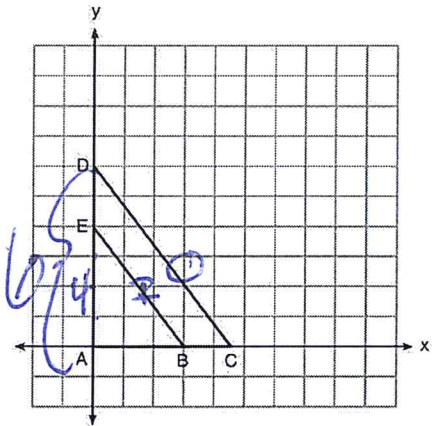


11. In the diagram below,  $\triangle ABE$  is the image of  $\triangle ACD$  after a dilation centered at the origin. The coordinates of the vertices are  $A(0, 0)$ ,  $B(3, 0)$ ,  $C(4.5, 0)$ ,  $D(0, 6)$ , and  $E(0, 4)$ .

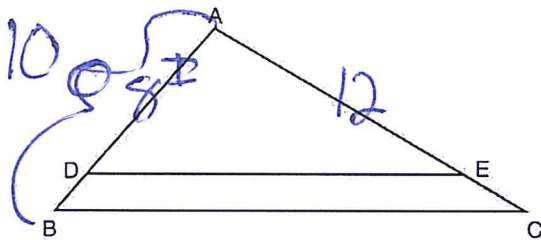
The scale factor of dilation is

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

$$\frac{\text{image}}{\text{original}} = \frac{4}{6} = \frac{2}{3}$$

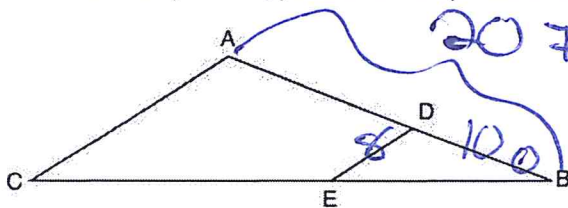


12. In the diagram shown below,  $\triangle ADE$  is the image of  $\triangle ABC$  after a dilation of  $k$  centered at point A. If  $AB = 10$ ,  $AD = 8$ , and  $AE = 12$ , what is the value of  $k$ ?



$$\frac{\text{image}}{\text{original}} = \frac{8}{10} = \frac{4}{5}$$

13. In the diagram below,  $\triangle ABC$  is the image of  $\triangle DBE$  after a dilation centered at point A. If  $\overline{AB} = 20$ ,  $\overline{DE} = 8$ , and  $\overline{DB} = 10$ , what is the scale factor?



$$\frac{\text{image}}{\text{original}} = \frac{20}{10} = 2$$