What are the vertices of $D_{2.5}(\triangle ABC)$

$A'(0,5)$
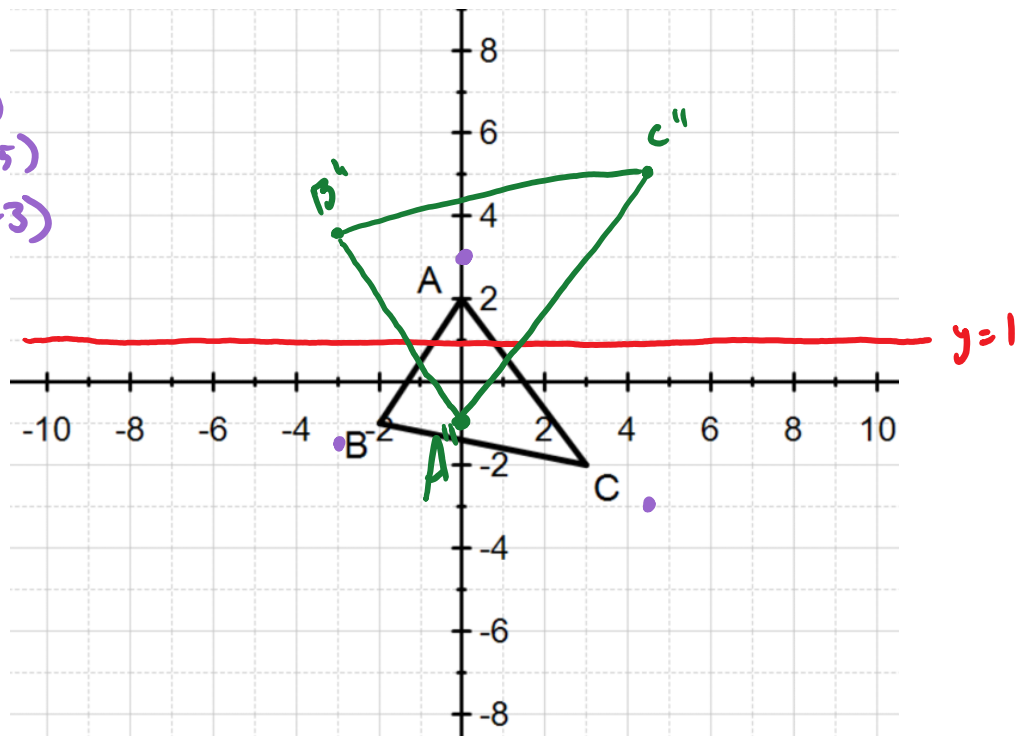$B'(-5,-2.5)$
$C'(7.5,-5)$
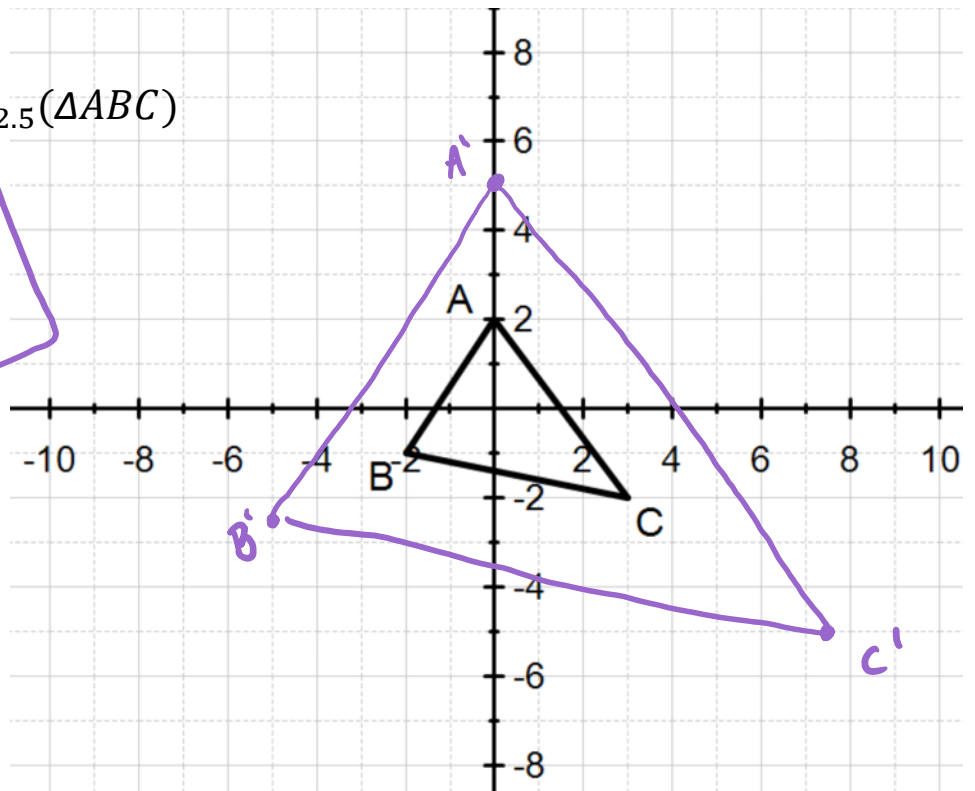
12 Total Questions

What is the image and the vertices of △ABC after you apply the composition
$R_{(y=1)} \circ D_{1.5}(\triangle ABC)$
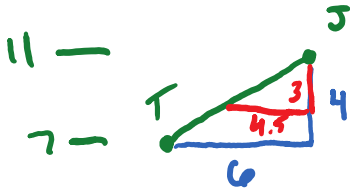
$A(0,2) \cdot 1.5 = A'(0,3)$
$B(-2,-1) \cdot 1.5 = B'(-3,-1.5)$
$C(3,-2) \cdot 1.5 = C'(4.5,-3)$

$A''(0,-1)$
$B''(-3,3.5)$
$C''(4.5)$

$y=1$

12 Total Questions

The endpoints of $\overline{JT}$ are J(9, 11) and T(3, 7). What are the endpoints of the image of $\overline{J'T'}$ after a dilation with a scale factor of $\frac{3}{4}$ from point J.
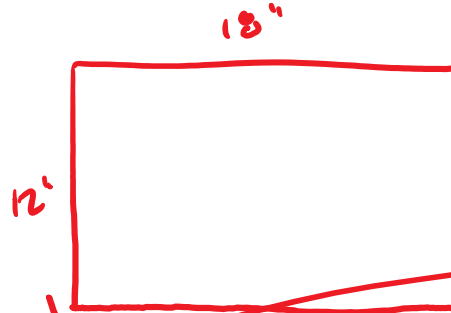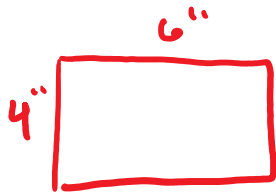
11 —

7 —

T

3

4.5

4

6

J

$J'(9,11) \quad T'(4.5, 8)$

$\frac{3}{4} \cdot 6 = \frac{18}{4} = \frac{9}{2} = 4.5$

$\frac{3}{4} \cdot 4 = 3$

$+ \quad \frac{1}{3} \quad \frac{1}{9}$

Your parents have a 4" by 6" photo that you want to have enlarged to fit a frame that is 12" by 18". Would the photo enlarge perfectly to fit the frame?
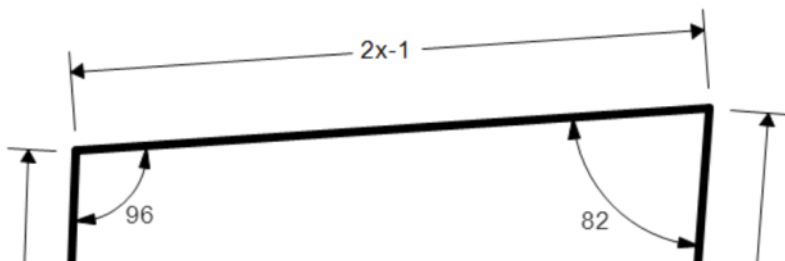
6"

4"

18"

12'

$\checkmark \frac{1}{3} = \frac{4}{12} = \frac{6}{18} = \frac{1}{3} \checkmark$

yes, enlarging by 3 would be perfect.

Find the value of r and t that make the polygons similar.

2x-1

96

82
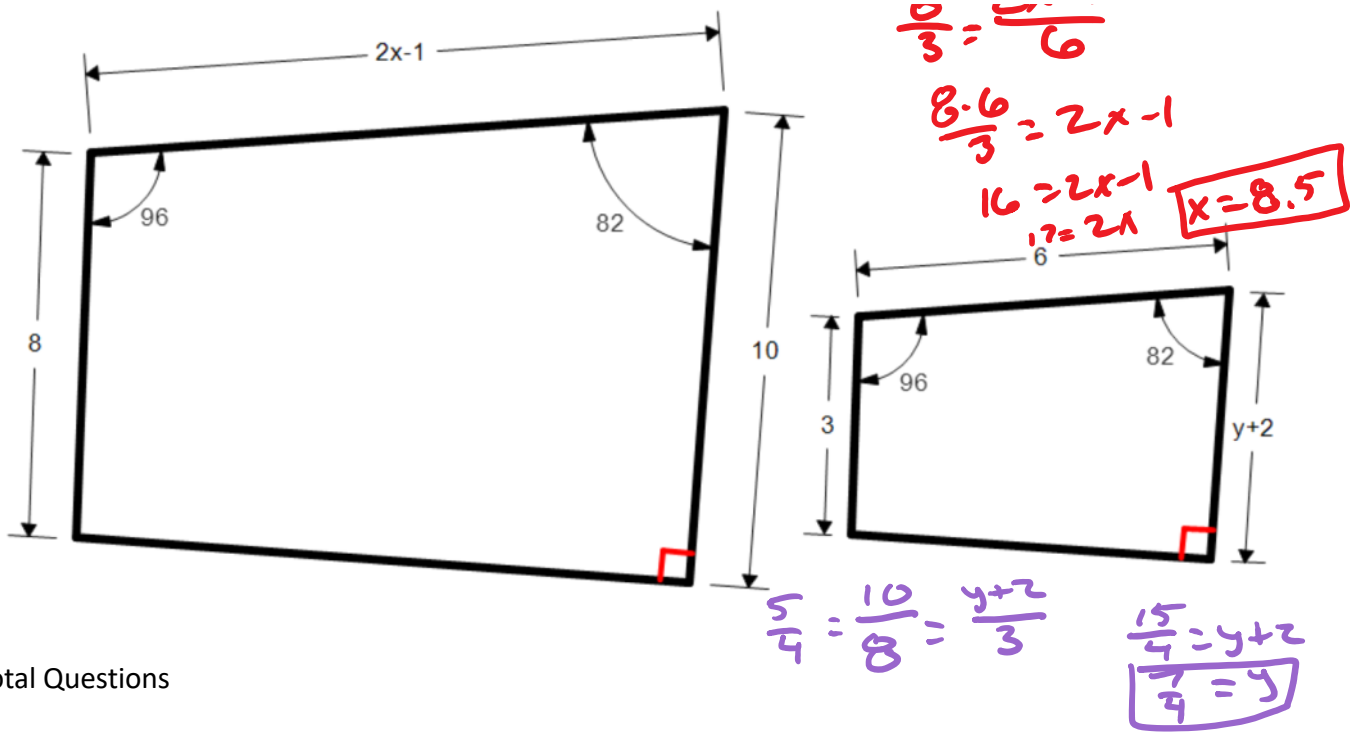
$\frac{8}{3} = \frac{2x-1}{6}$
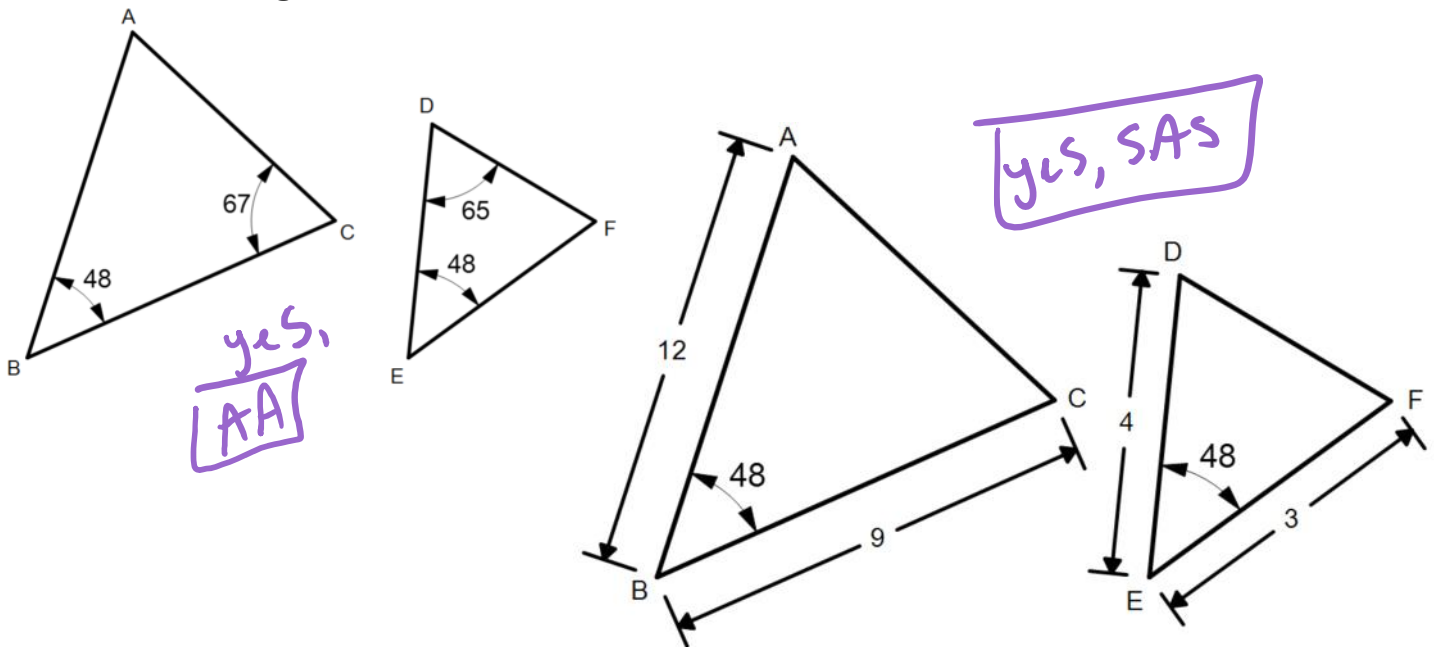
$\frac{8 \cdot 6}{3} = 2x-1$
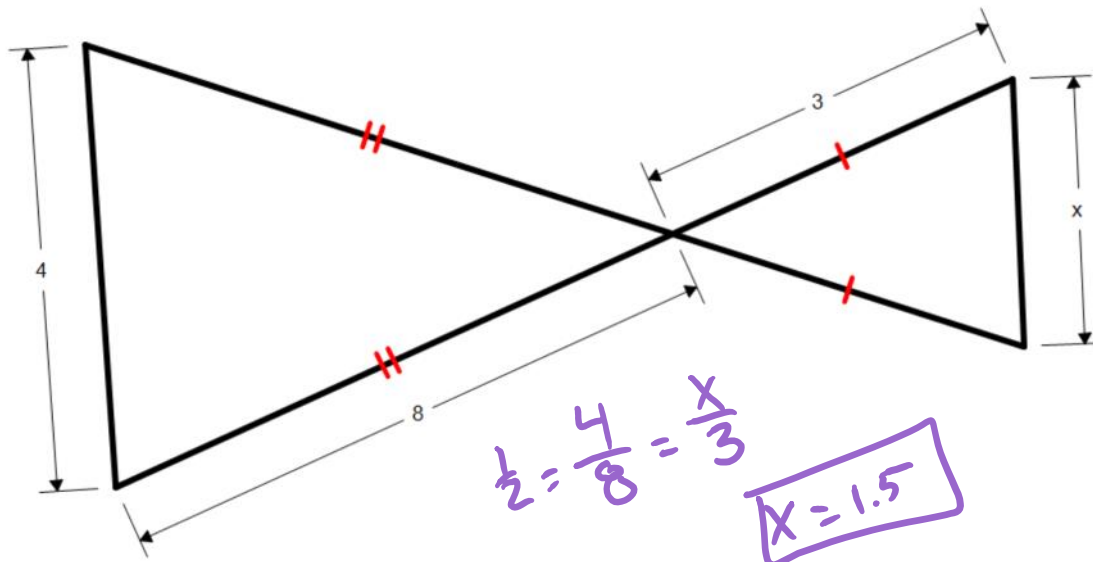
$16 = 2x-1$

$17 = 2x$

$x = 8.5$

Diagram of two similar rectangles:

Large rectangle: top side labeled 2x-1, left side labeled 8, right side labeled 10, interior angles 96 and 82, with a right angle mark at bottom right.

Small rectangle: top side labeled 6, left side labeled 3, right side labeled y+2, interior angles 96 and 82, with a right angle mark at bottom right.

Handwritten work:

$$\frac{\square}{3} = \frac{\square}{6}$$

$$\frac{8 \cdot 6}{3} = 2x-1$$

$$16 = 2x-1$$

$$17 = 2x \qquad \boxed{x=8.5}$$

$$\frac{5}{4} = \frac{10}{8} = \frac{y+2}{3}$$

$$\frac{15}{4} = y+2$$

$$\boxed{\frac{7}{4} = y}$$

12 Total Questions

Are the triangles similar? If so write whether it is SSS, SAS or AA?

Triangle ABC with angle at C = 67, angle at B = 48.
Triangle DEF with angle at D = 65, angle at E = 48.

Handwritten: yes, $\boxed{AA}$

Triangle ABC: side AB = 12, angle at B = 48, side from B to C = 9.
Triangle DEF: side DE = 4, angle at E = 48, side from E to F = 3.

Handwritten: $\boxed{\text{yes, SAS}}$

12 Total Questions

Find the value of x.

$$\frac{1}{2} = \frac{4}{8} = \frac{x}{3}$$

$$\boxed{X = 1.5}$$
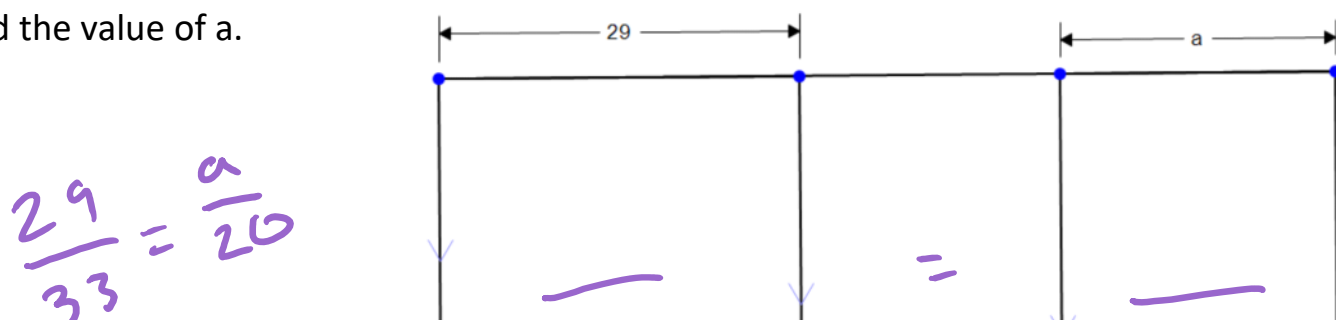
An outdoor adventure camp owns the lake shown in the diagram. They are having a zipline installed across the lake. A survey crew took the measurements shown. How long is the lake?

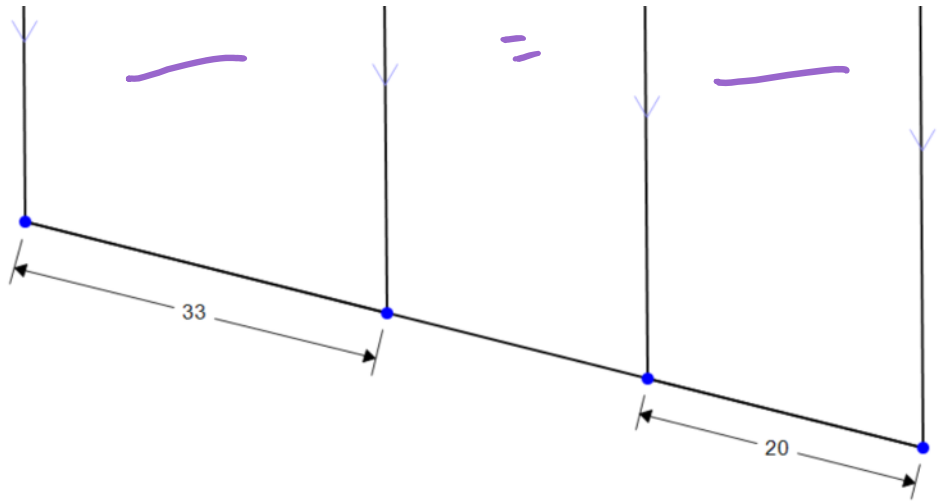$$\frac{1}{2} = \frac{46}{92} = \frac{x}{52} \quad \boxed{X = 26}$$

92

45

52

46

90

Find the value of a.

29

a

$$\frac{29}{33} = \frac{a}{20}$$

$$\overline{33} = 2u$$

$$\frac{29 \cdot 20}{33} = a$$

$$17.58 \approx a$$

33

20

According to the diagram shown, what is the correct proportion for the sides of the triangles. (Finish the proportion.)

$$\frac{AD}{DC} = \frac{CD}{DB} = \frac{AC}{BC}$$
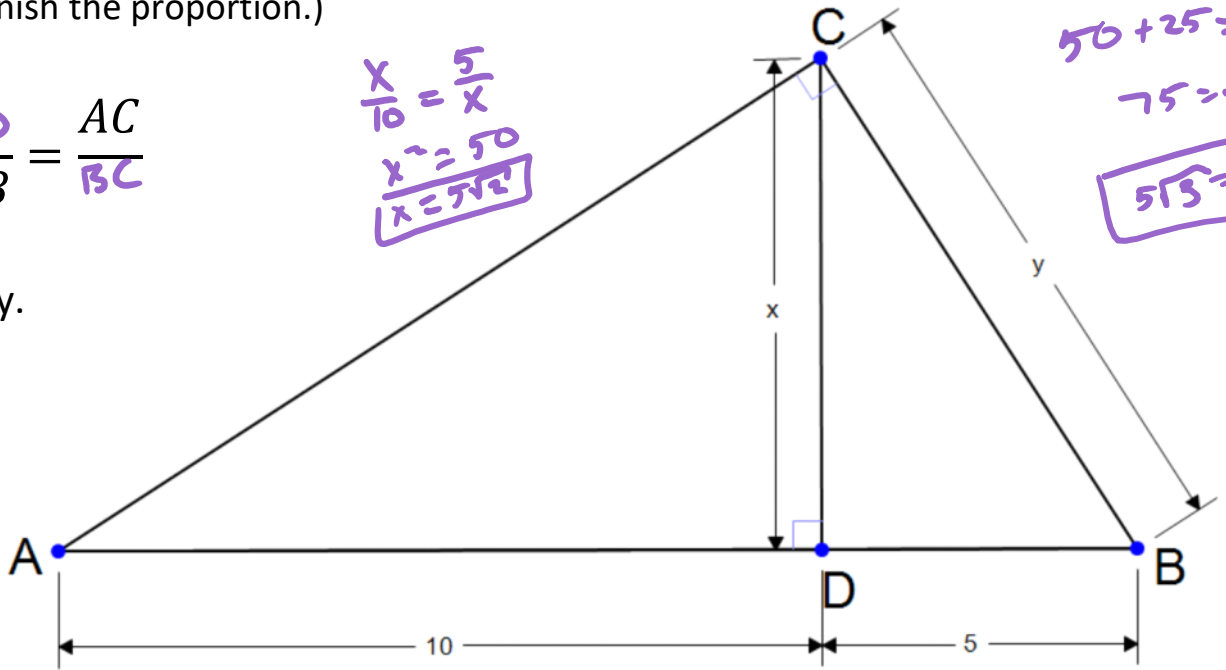
Find x and y.

$$\frac{x}{10} = \frac{5}{x}$$

$$x^2 = 50$$

$$x = 5\sqrt{2}$$

$$50 + 25 = y^2$$

$$75 = y^2$$

$$5\sqrt{3} = y$$