

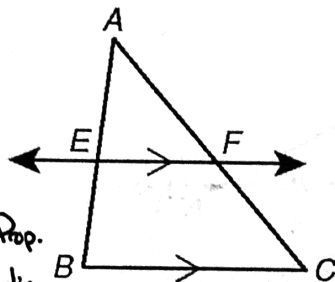
*Key will be on my website

Similarity Quiz 2 Review

Know this proof. ALL STEPS + justifications!

Given: $\overline{EF} \parallel \overline{BC}$.

Prove: $\frac{AE}{EB} = \frac{AF}{FC}$



$\angle A \cong \angle A$ Reflexive Prop.

$\angle AEF \cong \angle ABC$ corresponding angles theorem

$\triangle AEF \sim \triangle ABC$ by AA~

$\frac{AB}{AE} = \frac{AC}{AF}$ corresponding parts are proportional

$$\frac{AE+EB}{AE} = \frac{AF+FC}{AF}$$

$$\frac{AE}{AE} + \frac{EB}{AE} = \frac{AF}{AF} + \frac{FC}{AF}$$

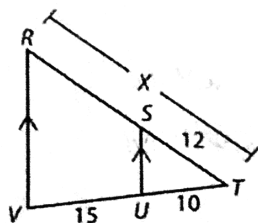
$$1 + \frac{EB}{AE} = 1 + \frac{FC}{AF}$$

$$\frac{EB}{AE} = \frac{FC}{AF}$$

$$\frac{AE}{EB} = \frac{AF}{FC}$$

What is the value of x in these pictures?

1.

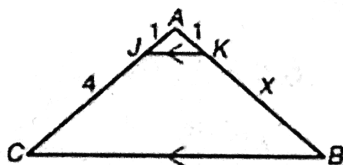


$$\frac{10}{15} = \frac{12}{RS}$$

$$RS = 18$$

$$x = 30$$

2.

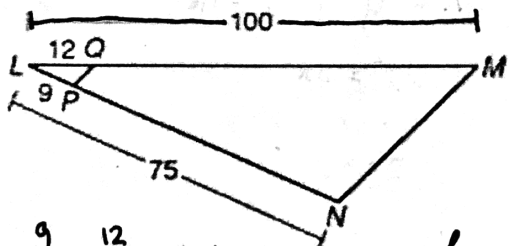


$$\frac{1}{4} = \frac{1}{x}$$

$$x = 4$$

Is each set of lines parallel? How do you know?

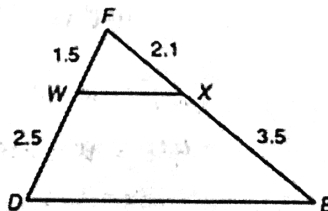
3. $\overline{QP} \parallel \overline{MN}$



$$\frac{9}{66} = \frac{12}{88}$$

by the converse of the Δ prop. thm $\overline{QP} \parallel \overline{MN}$

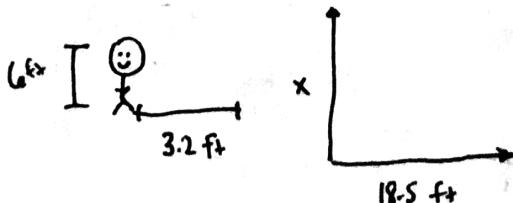
4. $\overline{WX} \parallel \overline{DE}$



$$\frac{1.5}{2.5} = \frac{2.1}{3.5}$$

by the converse of the Δ prop. thm $\overline{WX} \parallel \overline{DE}$

5. A person who is 6 feet tall casts a shadow of 3.2 feet. A building at the same time of day casts a shadow of 18.5 feet. How tall is the building? Draw a picture.

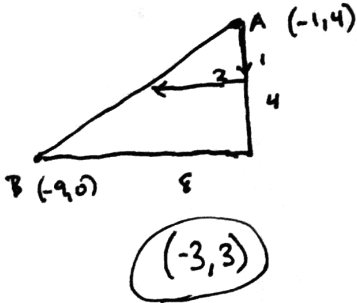


$$\frac{6}{3.2} = \frac{x}{18.5}$$

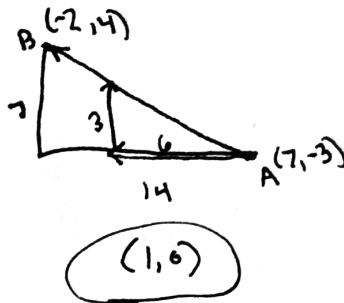
$$\approx 34.7 \text{ ft}$$

Find the point, P, that divides each directed line segment in the ratio provided.

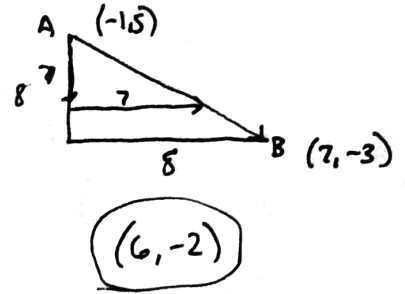
6. A (-1, 4) B (-9, 0); 1 to 3



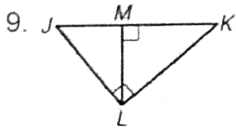
7. A (7, -3) B (-2, 4); 3 to 4



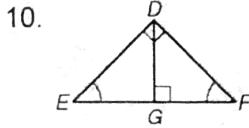
8. A (-1, 5) B (7, -3); 7 to 1



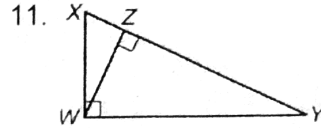
Write a similarity statement comparing the three triangles in each diagram.



$\triangle JML \sim \triangle LMK \sim$
 $\triangle JLK$



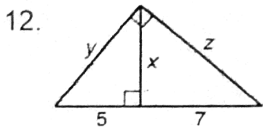
$\triangle EDG \sim \triangle DFG \sim$
 $\triangle EDF$



$\triangle XWZ \sim \triangle WYZ \sim$
 $\triangle XWY$

Write in simplest radical form.

Find x, y, and z. Round to the nearest tenth if necessary.



$x = \sqrt{35}$ $y = 2\sqrt{5}$ $z = 2\sqrt{21}$

$x^2 = 5(7)$

$x^2 = 35$

$x = \sqrt{35}$

$y^2 = 12(5)$

$y^2 = 60$

$y = \sqrt{60}$

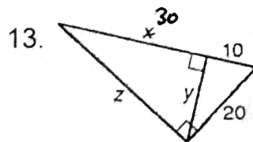
$y = 2\sqrt{15}$

$z^2 = 12(7)$

$z^2 = 84$

$z = \sqrt{84}$

$z = 2\sqrt{21}$



$x = 30$ $y = 10\sqrt{3}$ $z = 20\sqrt{3}$

$(20)^2 = 10(x+10)$

$400 = 10x + 100$

$300 = 10x$

$30 = x$

$y^2 = 30(10)$

$y^2 = 300$

$y = \sqrt{300}$

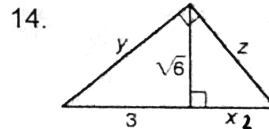
$y = 10\sqrt{3}$

$z^2 = 40(30)$

$z^2 = 1200$

$z = \sqrt{1200}$

$z = 20\sqrt{3}$



$x = 2$ $y = \sqrt{5}$ $z = \sqrt{10}$

$(\sqrt{6})^2 = 3x$

$6 = 3x$

$2 = x$

$y^2 = 5(3)$

$y = \sqrt{15}$

$z^2 = 5(2)$

$z^2 = 10$

$z = \sqrt{10}$