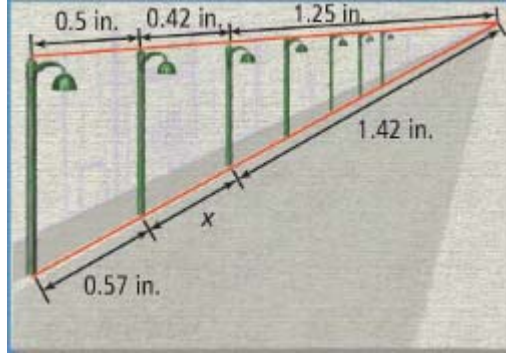


6.3 Side Splitter Theorem

NOTES

Perspective Drawing



Write your questions here!

Side-Splitter Theorem

Definition

If a line is parallel to one side of a triangle and intersects the other two sides, then

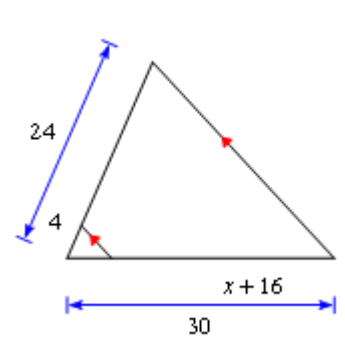
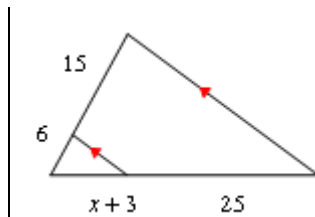
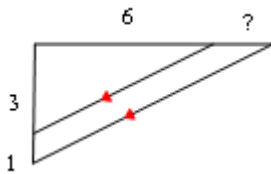
If...

$$\overrightarrow{MA} \parallel \overrightarrow{TH}$$

Then...

PROVE IT

TRY IT!

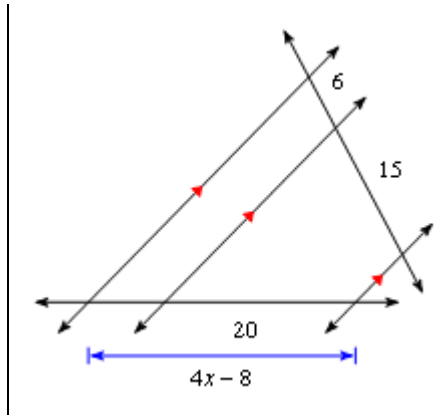
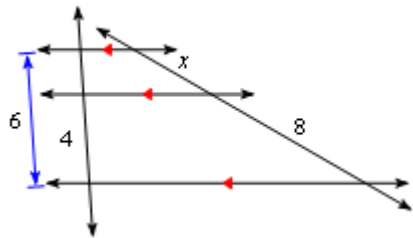


Write your questions here!



Corollary to Side-Splitter Theorem		
Definition If three parallel lines intersect two transversals, then	If... $\overrightarrow{GO} \parallel \overrightarrow{MA} \parallel \overrightarrow{TH}$	Then...

TRY IT!

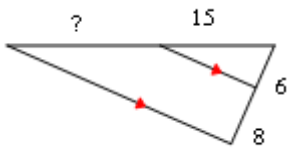


Summarize your notes!

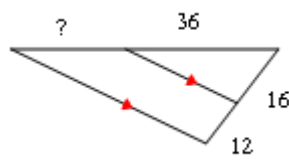
6.3 PRACTICE

Find the missing length indicated.

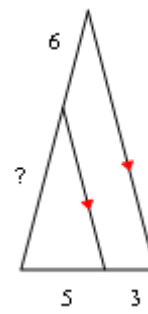
1.



2.

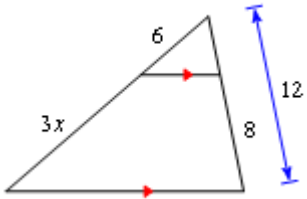


3.

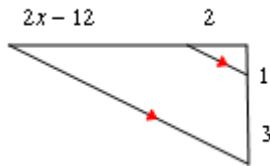


Solve for x .

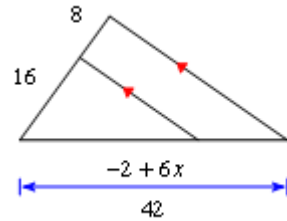
4.



5.

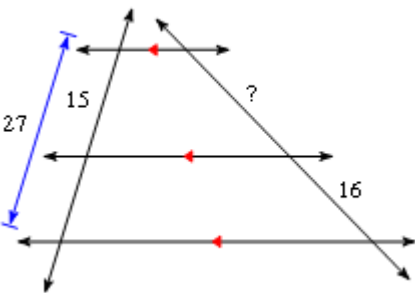


6.

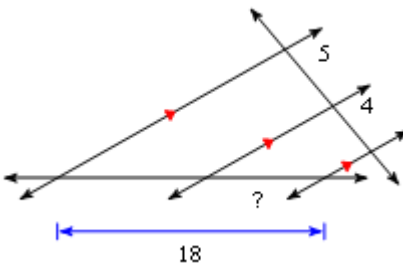


Find the missing length indicated.

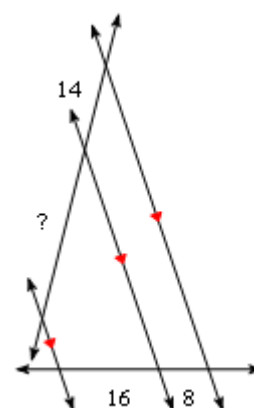
7.



8.

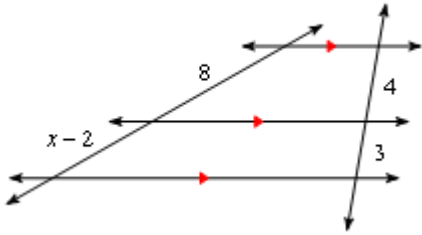


9.

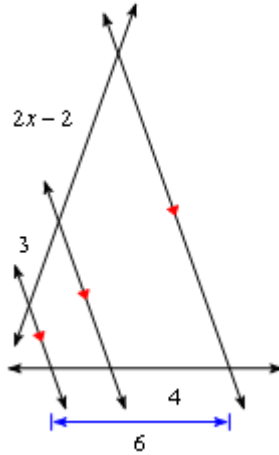


Solve for x.

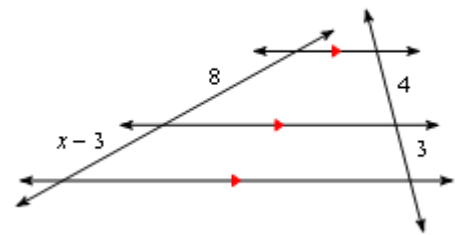
10.



11.



12.

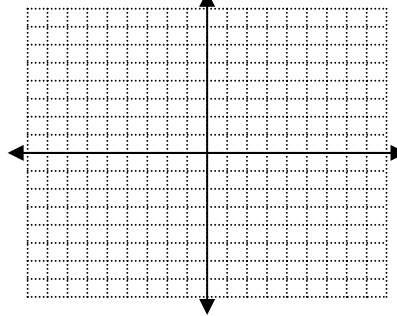


ALGEBRA REVIEW

SOLVE
Simplify your solution
 $3x^2 = 54$

$y = -\frac{x}{4} + 2$

GRAPH

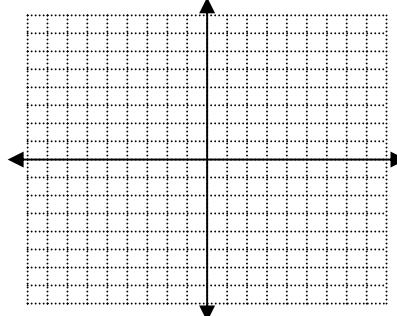


MULTIPLY
 $(2x - 3)(2x + 3)$

SOLVE
Simplify your solution
 $x^2 + 8 = 40$

$y = -x + 2$

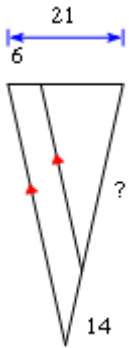
GRAPH



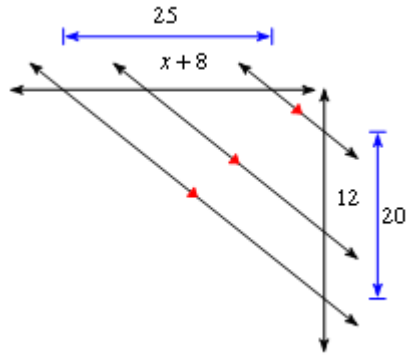
FACTOR
 $x^2 + 20x + 36$

6.3 APPLICATION

1. Find the missing length indicated.

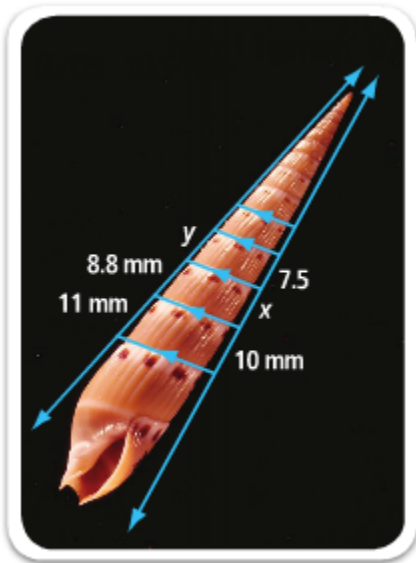


2. Find x .

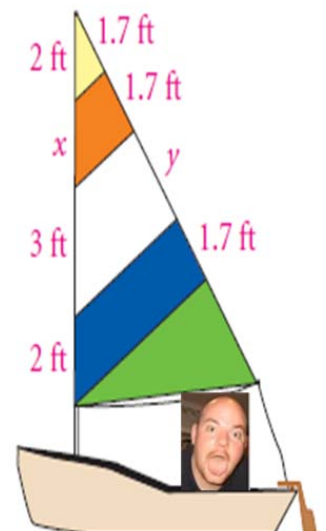


Watch the application walk through video if you need extra help getting started!

1. **NATURE** Below is a picture of an auger shell. Find x and y .



2. **BOATING** Captain Sully sets sail for a 3 hour tour. The weather starts getting rough, the tiny ship was tough. If not for the courage of the fearless math teacher, the ship would be lost, the ship would be lost. Find x and y .



3. **Coordinate Geometry**

a. Plot the points on the graph below to make $\triangle AGY$.

$A = (-3,0)$ $G = (-1,8)$ $Y = (7,2)$

b. Plot the points on the graph below to make \overline{NR} .

$N = (-2,4)$ $R = (3,5)$

c. Is \overline{NR} parallel to \overline{AY} ? Explain how you know.



Mr. Brust finds that some students get angry at the application problems and may have rage issues. Without losing it, answer letter d.

d. Use the distance formula to prove the side splitter theorem is true.

PROVE: $\frac{AN}{NG} = \frac{RY}{GR}$

