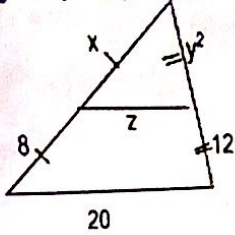


Day 3: Midsegment Theorem

Find the values of the variables. You must show all work to receive full credit. Figures are not drawn to scale.

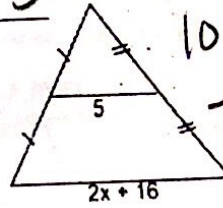
1.  $x = 8$   $y = 2\sqrt{3}$   $z = 10$



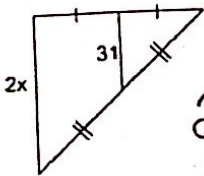
$12 = y^2$

2.  $x = -3$

$2(5) = 2x + 16$   
 $10 = 2x + 16$   
 $-6 = 2x$   
 $x = -3$

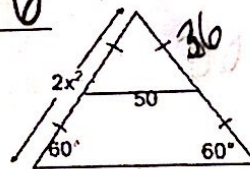


3.  $x = 31$



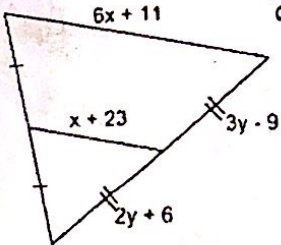
$2x = 2(31)$

4.  $x = 6$



$2x^2 = 72$   
 $x^2 = 36$

5.  $x = 8.75$   $y = \dots$   $2(x+23) = 6x+11$



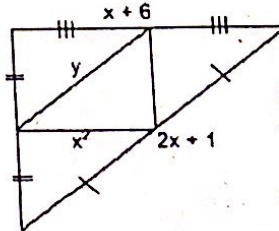
$2x+46 = 6x+11$

$35 = 4x$   
 $x = 8.75$

$2y+6 = 3y-9$

$y = 15$

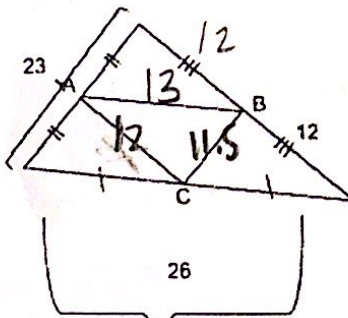
6.  $x = 2$   $y = 2.5$



$x+6 = 2x^2$   
 $0 = 2x^2 - x - 6$

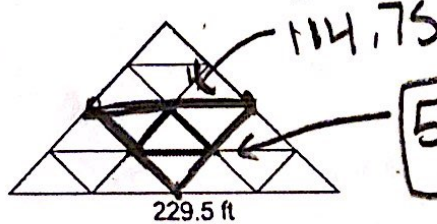
$(2x+3)(x-2)$   
 $x = -3/2$   $x = 2$

7. Find the perimeter of  $\triangle ABC$ .



$13 + 12 + 11.5 = 36.5$

8. One side of the Rock and Roll Hall of Fame is an isosceles triangle made up of smaller triangles based on mid-segments. The length of the base of the building is 229.5 feet. What would the base of the bold triangle be?



$57.375 \text{ ft}$

$2(y) = 2(2) + 1$   
 $2y = 5$   
 $y = 5/2$

6. Given: Prove: