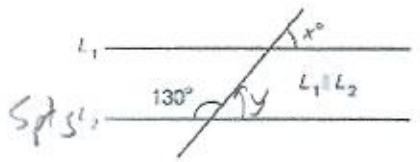
Solutions

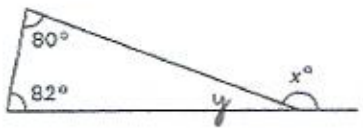
Geometry Quiz 12/6/19

Show all work for full credit!

1. Without a protractor, find the value of x in each of the following :



(a)



(b)

5pts

2. Points A, B, C, D have coordinates (0, 0), (7, 0), (9, 5), (2, 5) respectively. Show that $|AB| = |DC|$ and $|AD| = |BC|$. What can you say about the quadrilateral ABCD?

3. A right triangle has legs of equal length and area 40. How long are the legs?

1, a) $130 + y = 180$

$y = 50$

And $x = y$ so

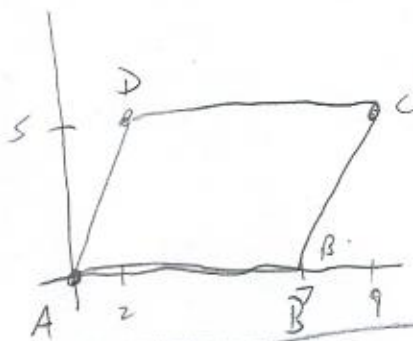
$\boxed{x = 50}$

b) $x + y = 180 \Rightarrow x = 180 - y$

and $80 + 82 + y = 180 \Rightarrow 162 = 180 - y$

$\boxed{x = 162}$

2.



2 pts $|AB| = 7 - 0 = 7$

$|DC| = 9 - 2 = 7$

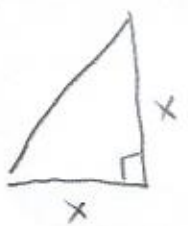
3 pts $|AD| = \sqrt{2^2 + 5^2} = \sqrt{29}$

$|BC| = \sqrt{2^2 + 5^2} = \sqrt{29}$

5. $|AB| = |DC|$ and $|AD| = |BC|$

$\boxed{\text{The quad. ABCD is a parallelogram}}$ 5 pts

3.



Area $= \frac{1}{2}$ base $\cdot$ height $= 40$

$2 \cdot \frac{1}{2} x \cdot x = 40 \cdot 2$

$x^2 = 80$

$\boxed{x = \sqrt{80}}$