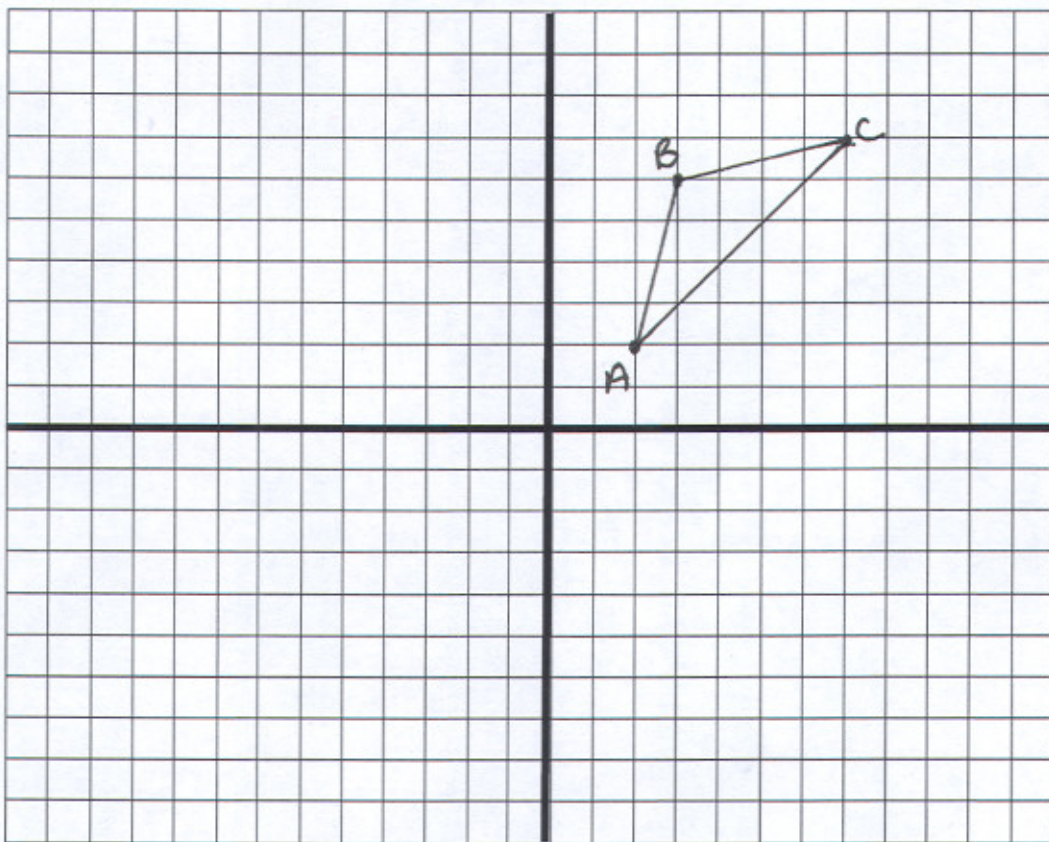


EXAMPLE: YOU MAY NOT USE!!

NAME of SHAPE: ISOSCELES TRIANGLE Student Name: MR POOLE (EXAMPLE)

Line Segment	Coordinates Of Endpoints	Slope	Equation of the line Slope-Intercept Form	Length of segment
\overline{AB}	A(2,2) B(3,6)	4	$y = 4x - 7$	$\sqrt{17}$
\overline{BC}	B(3,6) C(7,7)	$\frac{1}{4}$	$y = \frac{1}{4}x + 5$	$\sqrt{17}$
\overline{CA}	C(7,7) A(2,2)	1	$y = x$	



DO NOT USE

DO NOT USE

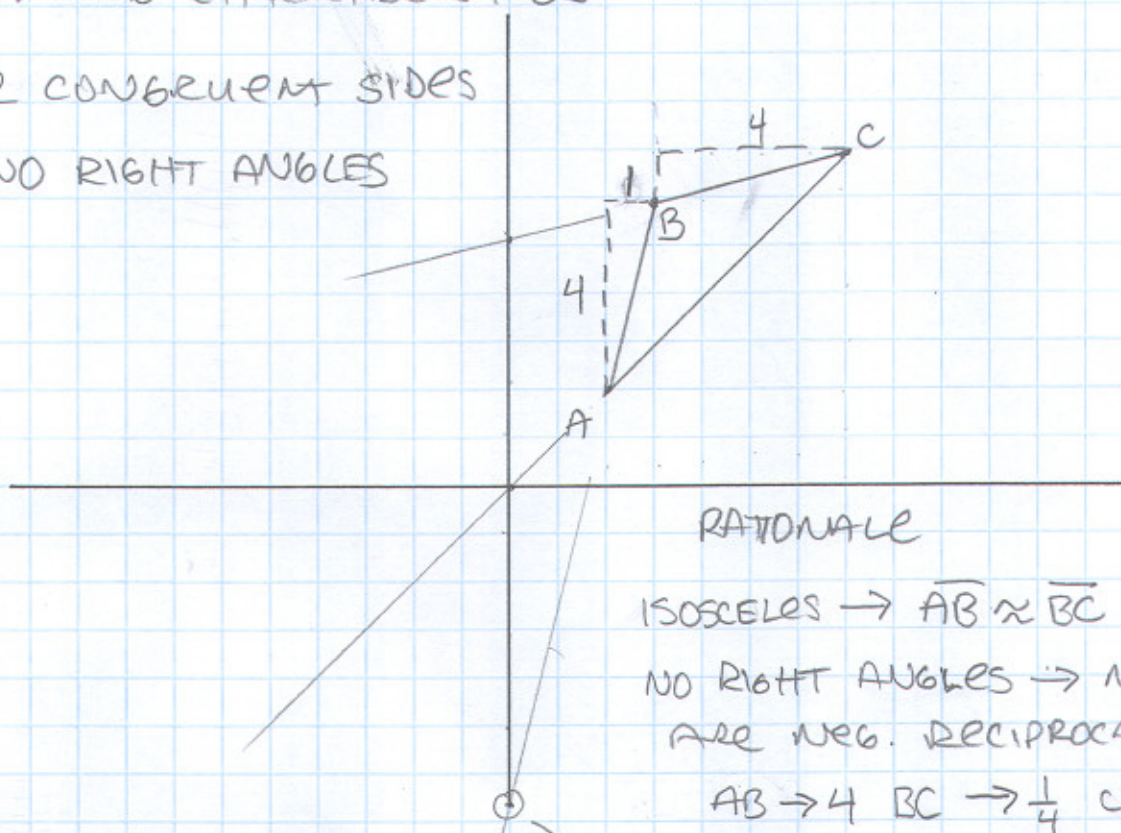
RATIONALE:

Triangle ABC is an isosceles triangle because segment AB is congruent to segment BC. Both segments have a length = $\sqrt{17}$ and segment CA has a length = $5\sqrt{2}$. I know it is not a right triangle because there are no perpendicular lines to form a right angle. The proof of this is that the slopes of the lines are not negative reciprocals of any of the other slopes. AB has a slope of 4. BC has a slope of $\frac{1}{4}$ and CA has a slope of 1.

ISOSCELES TRIANGLE THAT IS NOT A RIGHT TRIANGLE

DEFINING CHARACTERISTICS

- 1) 2 CONGRUENT SIDES
- 2) NO RIGHT ANGLES



RATIONALE

ISOSCELES $\rightarrow \overline{AB} \approx \overline{BC} \sqrt{17}$

NO RIGHT ANGLES \rightarrow NO SLOPES ARE NEG. RECIPROCAL

AB $\rightarrow 4$ BC $\rightarrow \frac{1}{4}$ CA $\rightarrow 1$

SEGMENT

\overline{AB} A(2,2)
B(3,6)

SLOPE
 $\frac{+4}{+1} = 4$

Y-INT
 ≈ -7

EQUATION
 $y = 4x - 7$

Y-INTERCEPT (ADVANCED)
 $y = 4x + b$
 $2 = 4(2) + b$
 $2 = 8 + b$ $b = -6$

LENGTH $4^2 + 1^2 = (\overline{AB})^2$ $\overline{AB} = \sqrt{17}$
 $17 = (\overline{AB})^2$

\overline{BC} B(3,6)
C(7,7)

$\frac{+1}{+4} = \frac{1}{4} \approx 5$

$y = \frac{x}{4} + 5$

LENGTH $1^2 + 4^2 = (\overline{BC})^2$ $\overline{BC} = \sqrt{17}$
 $17 = (\overline{BC})^2$

\overline{CA} C(7,7)
A(2,2)

$\frac{+5}{+5} = 1 \approx 0$ $y = x$

LENGTH $5^2 + 5^2 = (\overline{CA})^2$ $\overline{CA} = \sqrt{50}$
 $50 = \overline{CA}^2$ $\overline{CA} = 5\sqrt{2}$