

April 10th

A triangle has sides y , $2y - 1$ and $5y - 3$

Find any values of y which make the triangle isosceles

If $y = 2y - 1$

Then $y = 1$

Which makes the sides 1, 1 and 2, which can't make a triangle.

If $y = 5y - 3$

Then $y = \frac{3}{4}$

Which makes the sides $\frac{3}{4}$, $\frac{1}{2}$, $\frac{3}{4}$

If $2y - 1 = 5y - 3$

Then $y = \frac{2}{3}$

Which makes sides $\frac{2}{3}$, $\frac{1}{3}$, $\frac{1}{3}$ which can't make a triangle.

So the only value of y to make the triangle isosceles is $\mathbf{y = \frac{3}{4}}$