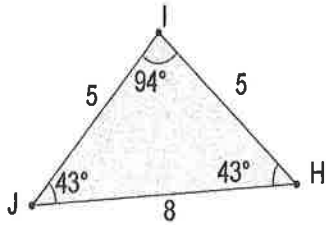
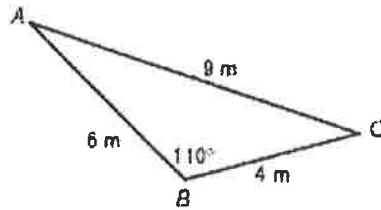


Classify each triangle by its angles (right, acute, obtuse, equiangular) and sides (scalene, equilateral, and isosceles).

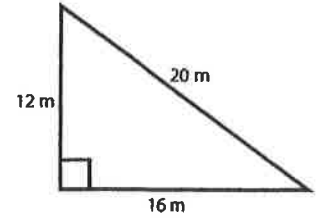
1. Angles obtuse
Sides isosceles



2. Angles obtuse
Sides scalene



3. Angles right
Sides scalene



4. Classify the triangle by its sides with the given vertices, D (-4, 1), E (1, 4) and F (2, -2). Make sure to show all work and the lengths of each of the sides.

$$DE = \sqrt{(1+4)^2 + (4-1)^2} = \sqrt{25+9} = \sqrt{34}$$

$$EF = \sqrt{(2-1)^2 + (-2-4)^2} = \sqrt{1+36} = \sqrt{37}$$

$$DF = \sqrt{(2+4)^2 + (-2-1)^2} = \sqrt{36+9} = \sqrt{45}$$

Scalene

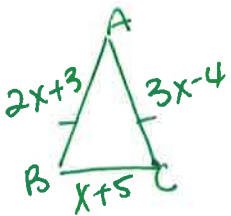
5. If $\triangle ABC$ is isosceles with $\angle A$ being the vertex angle, find x and the lengths of each side of the triangle if $AB = 2x + 3$, $AC = 3x - 4$ and $BC = x + 5$.

$x =$ 7

$AB =$ 17

$BC =$ 12

$AC =$ 17



$$2x+3 = 3x-4$$

$$-x = -7$$

$$x = 7$$

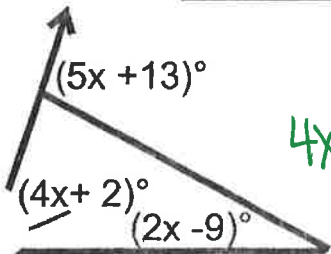
$$2(7)+3 = 14+3 = 17 = AB$$

$$3(7)-4 = 21-4 = 17 = AC$$

$$7+5 = 12 = BC$$

6. Solve for x . 20

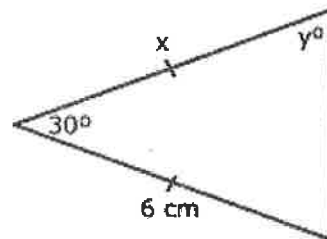
7. Solve for x and y . $x =$ 6 $y =$ 75°



$$4x+2 + 2x-9 = 5x+13$$

$$6x-7 = 5x+13$$

$$x = 20$$



$x = 6$ - isosceles

$$180 - 30 = \frac{150}{2} = 75$$

↓
base angles must be the same