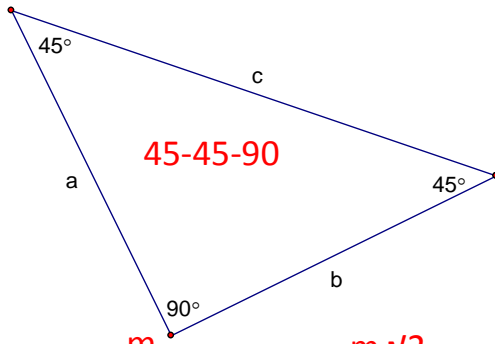


Fill in the table below using the diagram and information given. Each row represents a new triangle, but all triangles have the angle measures given in the diagram. Do scratch work off to the side. Leave answers in reduced radical form.



a = Leg = m  
 b = Leg = m  
 c = Hypotenuse =  $m\sqrt{2}$

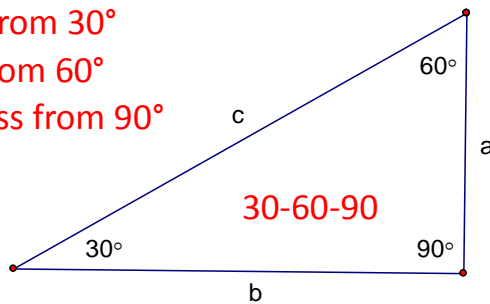
	m	m	$m\sqrt{2}$
	a	b	c
1.	5	5	$5\sqrt{2}$
2.	7	7	$7\sqrt{2}$
3.	13	13	$13\sqrt{2}$
4.	$3\sqrt{2}$	$3\sqrt{2}$	6
5.	$4\sqrt{3}$	$4\sqrt{3}$	$4\sqrt{6}$

1)  $5^2 + 5^2 = c^2$       2)  $7^2 + 7^2 = c^2$   
 $50 = c^2$                        $98 = c^2$   
 $c = 5\sqrt{2}$                        $c = 7\sqrt{2}$

3)  $a^2 + a^2 = (13\sqrt{2})^2$     4)  $(3\sqrt{2})^2 + (3\sqrt{2})^2 = c^2$   
 $2a^2 = 338$                        $18 + 18 = c^2$   
 $a^2 = 169$                        $36 = c^2$   
 $a = 13$                            $c = 6$

5)  $(4\sqrt{3})^2 + (4\sqrt{3})^2 = c^2$   
 $48 + 48 = c^2$   
 $96 = c^2$   
 $c = 4\sqrt{6}$

Short leg → across from 30°  
 Med leg → across from 60°  
 Hypotenuse → across from 90°



a = Short leg = m  
 b = Medium leg =  $m\sqrt{3}$   
 c = Hypotenuse = 2m

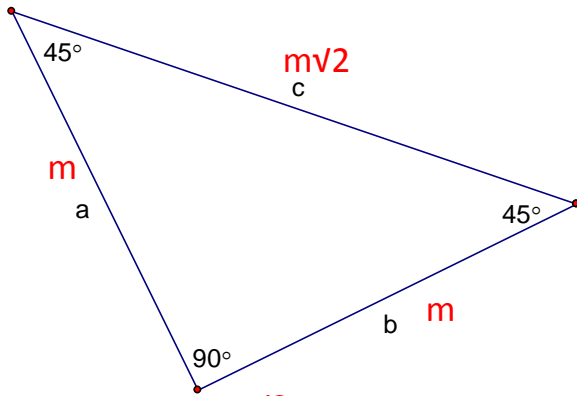
	m	$m\sqrt{3}$	2m
	a	b	c
1.	5	$5\sqrt{3}$	10
2.	7	$7\sqrt{3}$	14
3.	3	$3\sqrt{3}$	6
4.	$3\sqrt{3}$	9	$6\sqrt{3}$
5.	$4\sqrt{2}$	$4\sqrt{6}$	$8\sqrt{2}$

1)  $5^2 + b^2 = 10^2$       2)  $a^2 + (7\sqrt{3})^2 = 14^2$   
 $25 + b^2 = 100$                        $a^2 + 147 = 196$   
 $b^2 = 75$                                $a^2 = 49$   
 $b = 5\sqrt{3}$                                $a = 7$

3)  $3^2 + (3\sqrt{3})^2 = c^2$     4)  $a^2 + 9^2 = (6\sqrt{3})^2$   
 $9 + 27 = c^2$                        $a^2 + 81 = 108$   
 $36 = c^2$                                $a^2 = 27$   
 $c = 6$                                    $a = 3\sqrt{3}$

5)  $(4\sqrt{2})^2 + b^2 = (8\sqrt{2})^2$   
 $32 + b^2 = 128$   
 $b^2 = 96$   
 $b = 4\sqrt{6}$

Fill in the table below using the properties of special right triangles and the information given. Each row represents a new triangle, but all triangles have the angle measures given in the diagram. Do scratch work on the back.



General Formulas	
a =	m
b =	m
c =	m√2

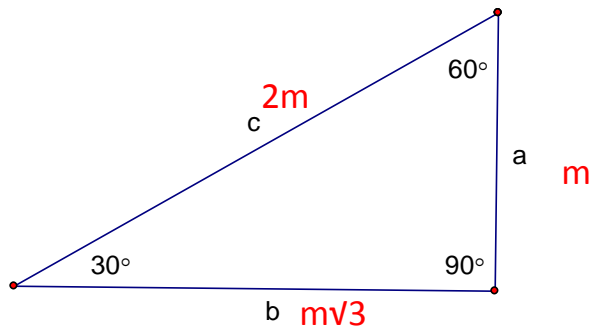
	a	b	c
1.	2	2	2√2
2.	6√2	6√2	12
3.	5√2	5√2	10
4.	4√7	4√7	4√14
5.	9√11	9√11	9√22

2)  $6\sqrt{2}(\sqrt{2}) = 6(2) = 12$

4)  $4\sqrt{7}(\sqrt{2}) = 4\sqrt{14}$

5)  $9\sqrt{11}(\sqrt{2}) = 9\sqrt{22}$

3)  $\frac{m\sqrt{2}}{\sqrt{2}} = \frac{10}{\sqrt{2}}$   
 $m = \frac{10\sqrt{2}}{\sqrt{2}\sqrt{2}}$   
 $m = \frac{10\sqrt{2}}{2}$   
 $m = 5\sqrt{2}$



General Formulas	
a =	m
b =	m√3
c =	2m

	a	b	c
1.	17	17√3	34
2.	9	9√3	18
3.	4√17	4√51	8√17
4.	4√3	12	8√3
5.	4√2	4√6	8√2