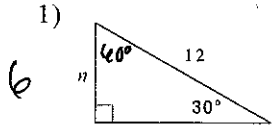
Geometry Name_____ ID: 1

30-60-90 Triangle Practice

Date_____ Period____

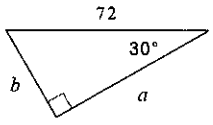
Find the missing side lengths. Leave your answers as radicals in simplest form.

1) 

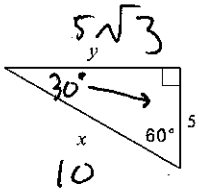
6

$6\sqrt{3}$

30	60	90
x	$x\sqrt{3}$	2x
6	$6\sqrt{3}$	12

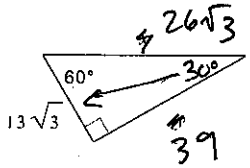
2) 

30	60	90
x	$x\sqrt{3}$	2x
36	$36\sqrt{3}$	72

3) 

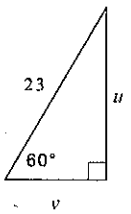
10

30	60	90
x	$x\sqrt{3}$	2x
5	$5\sqrt{3}$	10

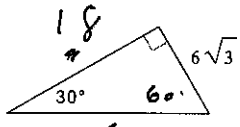
4) 

39

30	60	90
x	$x\sqrt{3}$	2x
$13\sqrt{3}$	$13\sqrt{3}\cdot\sqrt{3}$ / $13\cdot3$ / 39	$26\sqrt{3}$

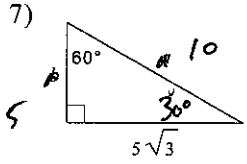
5) 

30	60	90
x	$x\sqrt{3}$	2x
$\frac{23}{2}$	$\frac{23}{2}\sqrt{3}$	23

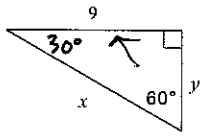
6) 

$12\sqrt{3}$

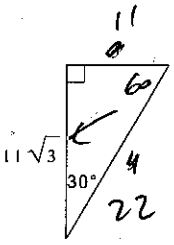
30	60	90
x	$x\sqrt{3}$	2x
$6\sqrt{3}$	$6\sqrt{3}\cdot\sqrt{3}$ / $6\cdot3$ / 18	$12\sqrt{3}$

7) 

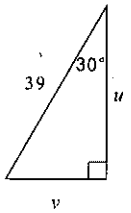
30	60	90
x	$x\sqrt{3}$	2x
5	$5\sqrt{3}$	10

8) 

30	60	90
x	$x\sqrt{3}$	2x
$3\sqrt{3}$	9	$6\sqrt{3}$

9) 

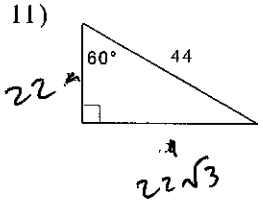
30	60	90
x	$x\sqrt{3}$	2x
11	$11\sqrt{3}$	22

10) 

$\frac{x\sqrt{3}}{\sqrt{3}} = \frac{9}{\sqrt{3}} \quad \frac{\sqrt{3}}{\sqrt{3}} = \frac{9\sqrt{3}}{3} = 3\sqrt{3}$

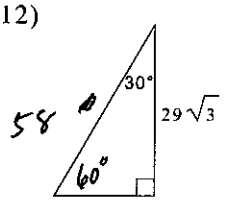
30	60	90
x	$x\sqrt{3}$	2x
$\frac{39}{2}$	$\frac{39}{2}\sqrt{3}$	39

11)



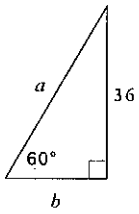
30	60	90
x	x√3	2x
22	22√3	44

12)



30	60	90
x	x√3	2x
29	29√3	58

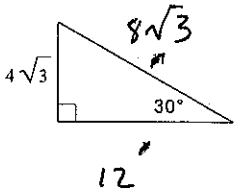
13)



30	60	90
x	x√3	2x
12√3	36	24√3

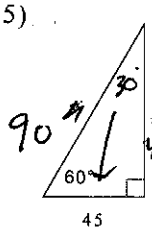
$\frac{36\sqrt{3}}{3} = \frac{\sqrt{3}}{\sqrt{3}} \cdot \frac{36}{\sqrt{3}} = \frac{x\sqrt{3}}{\sqrt{3}}$

14)



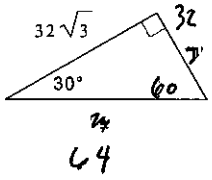
30	60	90
x	x√3	2x
4√3	4√3 √3 / 4·3 / 12	8√3

15)



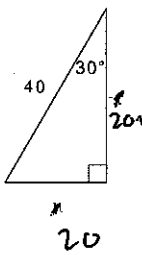
30	60	90
x	x√3	2x
45	45√3	90

16)



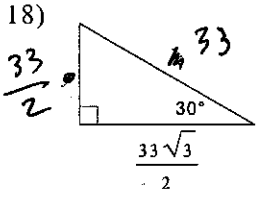
30	60	90
x	x√3	2x
32	32√3	64

17)



30	60	90
x	x√3	2x
20	20√3	40

18)



30	60	90
x	x√3	2x
33/2	33/2 √3	33