Name: KEY

Date: _____

Common Core Geometry

Period: _____

Cofunctions and Special Triangles

1. If $\sin(A-30)^\circ = \cos 60^\circ$, the number of degrees in the measure of angle A is

1) 30

2) 60

3) 90

4) 120

$A - 30 + 60 = 90$

$A + 30 = 90$

$A = 60$

2. If $\cos(x+30^\circ) = \sin x$, a measure of angle x is

1) 15º

2) 30º

3) 45º

4) 60º

$x + 30 + x = 90$

$2x + 30 = 90$

$2x = 60$

$x = 30$

3. If $\cos(2x-1)^\circ = \sin(3x+6)^\circ$, then the value of x is

1) −7

2) 17

3) 35

4) 71

$2x - 1 + 3x + 6 = 90$

$5x + 5 = 90$

$5x = 85$

$x = 17$

4. If $\sin(x-3)^\circ = \cos(2x+6)^\circ$, then the value of x is

1) −9

2) 26

3) 29

4) 64

$x - 3 + 2x + 6 = 90$

$3x + 3 = 90$

$3x = 87$

$x = 29$

5. If x is a positive acute angle and $\sin x = \cos(x+20^\circ)$, find the value of x

$x + x + 20 = 90$

$2x + 20 = 90$

$2x = 70$

$x = 35$

6. If $\cos 72^\circ = \sin x$, find the number of degrees in the measure of acute angle x.

$72 + x = 90$

$x = 18$

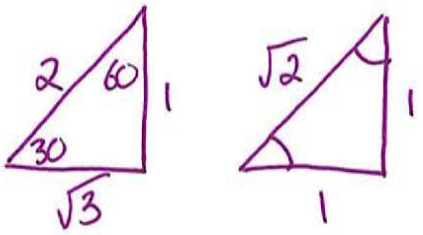
7. If $3x$ is the measure of a positive acute angle and $\cos 3x = \sin 60^\circ$, find the value of x.

$3x + 60 = 90$

$3x = 30$

$x = 10$

8. Draw and label both special triangles



9. Express the product of cos 30° and sin 45° in simplest radical form.

$\frac{\sqrt{3}}{2} \cdot \frac{\sqrt{2}}{2} = \boxed{\frac{\sqrt{6}}{4}}$

$\frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$

10. The value of $(\sin 60°)(\cos 60°)$ is

1) $\frac{3}{4}$

2) $\frac{\sqrt{2}}{4}$

3) $\frac{\sqrt{3}}{3}$

4) $\boxed{\frac{\sqrt{3}}{4}}$

$\frac{\sqrt{3}}{2} \cdot \frac{1}{2}$

11. Express tan 60 in simplest radical form

$\frac{\sqrt{3}}{1}$

12. Express tan 30 in simplest radical form

$\frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$

13. Express the product of cos 45 and sin 30 in simplest radical form.

$\frac{\sqrt{2}}{2} \cdot \frac{1}{2} = \frac{\sqrt{2}}{4}$