Warm-up

Factor to solve

1.) $2x = xy$

$2x - xy = 0$

$x(2-y) = 0$

$\boxed{x=0}$ $\boxed{2=y}$

2.) $6x^2 + 7x = 3$

$6x^2 + 7x - 3 = 0$

$(2x+3)(3x-1) = 0$

$x = \frac{-3}{2}, \frac{+1}{3}$

3.) $(2x-3)(x+1) = 0$

$=0$ $=0$

$\boxed{x = \frac{3}{2}, -1}$

Unit 6

Learning Target 2

I can solve trig equations in degrees and radians by factoring.

Solve the equation over the interval $\left[0^\circ, 360^\circ\right)$.

1.) $3\sin x\cos x = \cos x$

$3\sin x\cos x - \cos x = 0$

$\cos x\,(3\sin x - 1) = 0$

$\cos x = 0$ $\quad$ $\sin x = \frac{1}{3}$ $\quad$ RA: 19.47°

$x = 90^\circ, 270^\circ, 19.47^\circ, 160.53^\circ$

Solve the equation over the interval $\left[0, 2\pi\right)$.

2.) $sec^2x - 6secx + 5 = 0$

5
-5 -1
-6

$(\sec^2 x - 5\sec x)(-1\sec x + 5)$

$\sec x(\sec x - 5) - 1(\sec x - 5)$

$(\sec x - 1)(\sec x - 5) = 0$

$\sec x = 1$ $\quad$ $\sec x = 5$

$\cos x = 1$ $\quad$ $\cos x = 1/5$ $\quad$ RA: 1.37

$x = 0, 1.37, 4.91$

Solve the equation over the interval $\left[0^\circ, 360^\circ\right)$.

3.) $2\sin^2 x = 3\sin x + 5$

$2\sin^2 x - 3\sin x - 5 = 0$

$2x^2 - 3x - 5 = 0$

-10

$\frac{2}{2}$ -5 $\frac{}{2}$

-3

$(x+1)(2x-5) = 0$

$(\sin x + 1)(2\sin x - 5) = 0$

$\sin x = -1$ $\sin x = \frac{5}{2}$

$x = 270^\circ$

Solve the equation over the interval $\left[0^\circ, 360^\circ\right)$.

4.) $(4\sin^2 x - 1)(\cos^2 x - 2) = 0$

Solve the equation over the interval $\left[0,\ 2\pi\right)$.

5.) $6cos^2x = -cosx + 2$