

U3D7

Review Day!

Ch. 3 Stations Review

①

$$\begin{array}{rcl}
 2x + y + 2z & = & 6 \\
 -2x + 2y - z & = & 3 \\
 x + 3y - 2z & = & -1 \\
 \hline
 x2 \rightarrow 2x + 6y - 4z & = & -2 \\
 \rightarrow -2x + 2y - z & = & 3 \\
 \hline
 8y - 5z & = & 1
 \end{array}$$

$$\begin{array}{rcl}
 3(2) + z & = & 9 \\
 6 + z & = & 9 \\
 z & = & 3
 \end{array}$$

$$\begin{array}{rcl}
 & & \boxed{3y + z = 9} \\
 & & \quad \quad \quad (5)
 \end{array}$$

$$\begin{array}{rcl}
 15y + 5z & = & 45 \\
 8y - 5z & = & 1 \\
 \hline
 23y & = & 46
 \end{array}$$

$$\begin{array}{rcl}
 23y & = & 46 \\
 y & = & 2
 \end{array}$$

$$\begin{array}{rcl}
 x + 3(2) - 2(3) & = & -1 \\
 x + 6 - 6 & = & -1 \\
 x & = & -1
 \end{array}$$

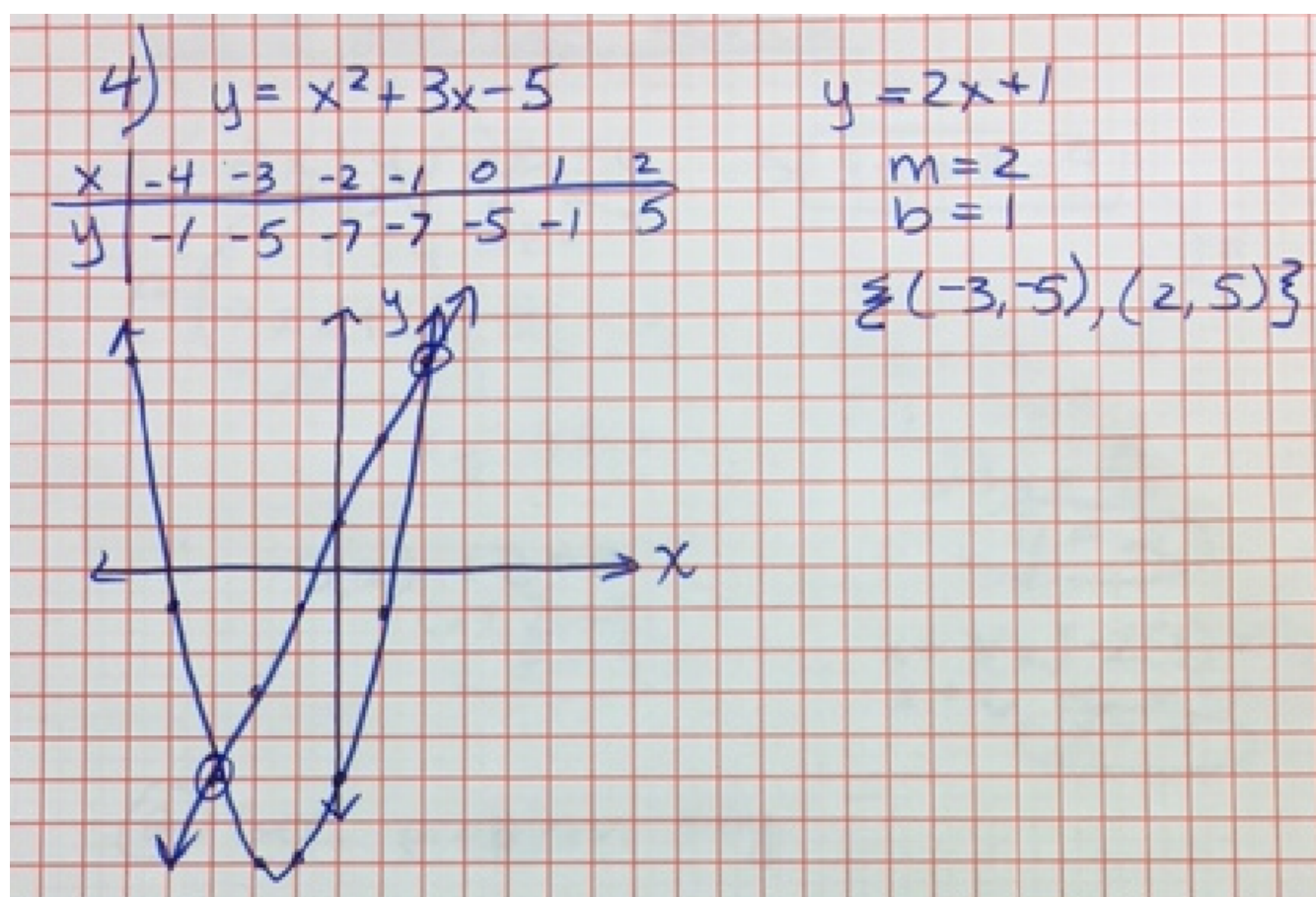
② see problem key

(3) $y = x^2 + 3x - 5$
 $y = 2x + 1$

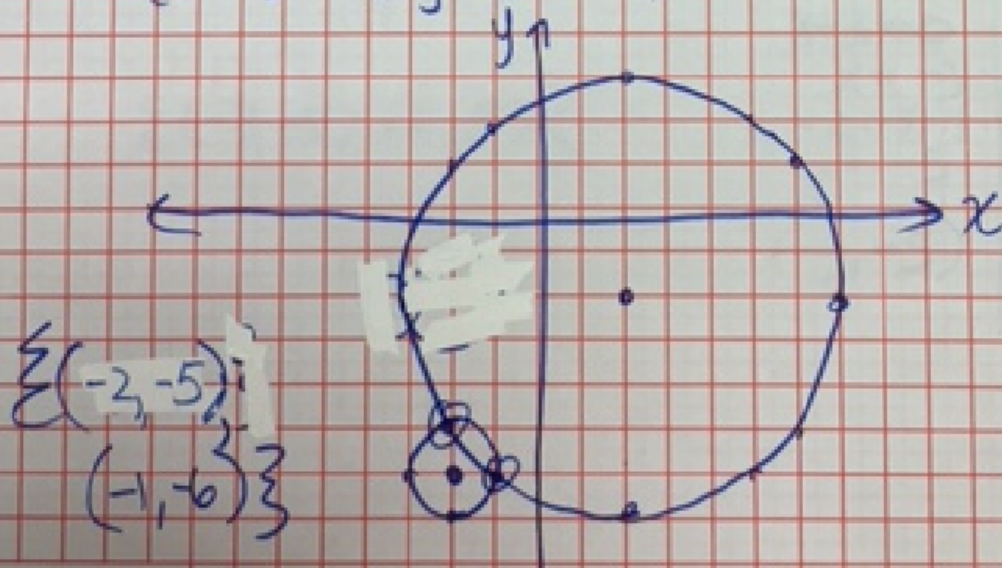
$2x + 1 = x^2 + 3x - 5$
 $0 = x^2 + x - 6$
 $0 = (x + 3)(x - 2)$

$x + 3 = 0$ | $x - 2 = 0$
 $x = -3$ | $x = 2$
 $y = 2(-3) + 1$ | $y = 2(2) + 1$
 $y = -5$ | $y = 5$
 $(-3, -5)$ | $(2, 5)$

$\{(-3, -5), (2, 5)\}$



5) $\begin{cases} (x-2)^2 + (y+2)^2 = 25 \\ (x+2)^2 + (y+6)^2 = 1 \end{cases}$ — $C = (2, -2) \quad r = 5$
— $C = (-2, -6) \quad r = 1$



a) $x^2 + y^2 - 8x + 16y + 44 = 0$

$$x^2 - 8x + \boxed{16} + y^2 + 16y + \boxed{64} = -44 + \boxed{16} + \boxed{64}$$
$$\boxed{(x-4)^2 + (y+8)^2 = 36}$$

b) $x^2 + 8x - 6y + 1 = 0$

$$y^2 - 6y + \boxed{9} = -8x - 1 + \boxed{9}$$
$$\boxed{(y-3)^2 = -8(x-1)}$$

