

Session 4.4

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Problem 1

- Find the equation of the line that goes through the points $(-4, 11)$ and $(2, 8) \implies \boxed{y = -1/2x + 9}$
- Find the equation of a line that is perpendicular to ANS and goes through the origin $\implies \boxed{y = 2 * x}$
- Solve for y in: $\begin{cases} 3x - y = 4 \\ ANS \end{cases} \implies \boxed{y = 8}$

Problem 2

- Solve for y in: $\begin{cases} 5x - 2y = 8 \\ y = 2x - 1 \end{cases} \implies (6, 11) \implies \boxed{y = 11}$
- Find the two solutions for x of $y = |x - ANS|$ when $y = 5 \implies \boxed{6, 16}$
- Solve for x in: $\begin{cases} 5x - 2y = ANS_1 \\ y = -3x + ANS_2 \end{cases} \implies \boxed{x = 38/11}$

Problem 3

- Solve for both values of x in $y = |x - 2| + 1$ when $y = 5$ and write them from smallest to largest. $\implies \boxed{-2, 4}$
- Solve for x in: $\begin{cases} -x - 1 * ANS_1 * y = 2 \\ -2x + ANS_2 * y = 3 \end{cases} \implies \boxed{(5, 4)}$
- Write the equation of any quadratic function that passes through the point ANS

Problem 4

- Solve for x in $\begin{cases} 3x - 5y = 23 \\ 5x + 7y = 0 \end{cases} \implies \boxed{7/2}$
- Find the y -intercept of a line with slope ANS that goes through the point $(-6, -18) \implies \boxed{3}$
- Solve for both solutions of x for $y = |x - ANS| + 1$ where $y = 10$

Problem 5

- Solve for y in $\begin{cases} 2x + y = 9 \\ 3x - y = 16 \end{cases} \implies \boxed{y = -1}$
- List many points on the graph $y = ANS * x^2$
- Write down the formula for the graph passing through the points listed in ANS

Problem 6

1. Find both solutions to x for $y = -2*|3x+1|$ where $y = -14$ and write them in increasing order \implies $\boxed{-4, 3}$
2. Factor $x^2 + ANS_1 * x - ANS_2 * 15$
3. Plot the graph of ANS and label a couple key points to convince me it's right.

Problem 7

1. Describe in english words (no equations! otherwise you're **disqualified**) the graph of $y = (x - 2)^2 - 9$
2. From the description in ANS write the equation and expand it into the form $x^2 + Bx + C \implies$ $\boxed{x^2 - 4x - 5}$
3. Factor ANS into the form $(x + u)(x + v)$ and, where $u < v$ let your final answer be $2 * u + 3 * v \implies$ $\boxed{13}$

Problem 8

1. Factor $x^2 - 3x - 28$ into $(x + u)(x + v)$, and return $u + v$ as your answer \implies $\boxed{-3}$
2. Find both solutions of x in $y = -|x + ANS| + 1$ where $y = -7$ and write your answers in increasing order \implies $\boxed{-5, 11}$
3. Write the quadratic function that describes $y = x^2$ with a horizontal shift of ANS_1 and a vertical shift of ANS_2