

Key

(Print)

Circle your TA's name:

D1 - Lacy Hardcastle

D2 - Kyla Hewell

D3 - Kelly Robinson

1. Solve each equation.

(a) $5x^2 + 6x = 8$

$5x^2 + 6x - 8 = 0$

$(5x - 4)(x + 2) = 0$

$x = \frac{4}{5}, -2$

(10 pts.)

$5x - 4 = 0$

$x = \frac{4}{5}$

$x + 2 = 0$

$x = -2$

(b) $|x - 7| \geq 4$

The distance between x and 7 is greater than or equal to 4.

(10 pts.)

$$3 = 7 - 4 \quad 7 \quad 7 + 4 = 11$$

$x \leq 3 \text{ or } x \geq 11$

2. Find an equation of the line that passes through the point $(-2, 3)$ and is parallel to the line $5x + 4y = 1$.

$5x + 4y = 1$

↑
same slope

$y = \frac{-5x + 1}{4} = -\frac{5}{4}x + \frac{1}{4}$

(10 pts.)

$m = -\frac{5}{4}$

$(x_1, y_1) = (-2, 3)$

$y - y_1 = m(x - x_1)$

$y - 3 = -\frac{5}{4}(x - (-2))$

$y = -\frac{5}{4}x - \frac{5}{2} + 3$

$y = -\frac{5}{4}x + \frac{1}{2}$

MATH 1712 D1-D3 Quiz #1 Full Name W i

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3. Find the center and radius of the circle $x^2 - 6x + y^2 + 2y + 6 = 0$

Complete the squares in $x + y$.

$$(x^2 - 6x) + (y^2 + 2y) = -6$$

$$(x^2 - 6x + 9) + (y^2 + 2y + 1) = -6 + 9 + 1$$

(10 pts.)

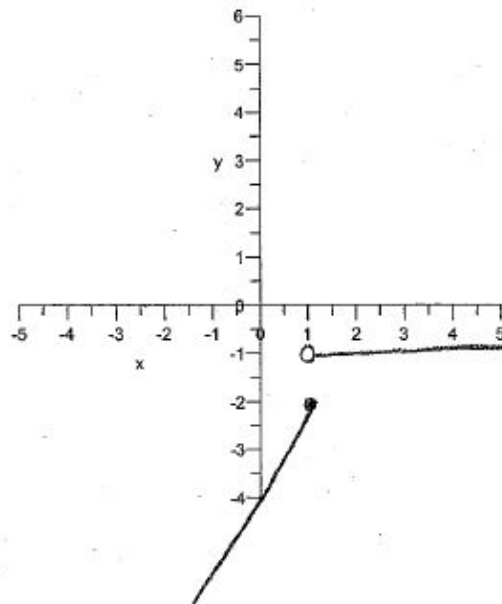
$$(x - 3)^2 + (y + 1)^2 = 5$$

$$\text{Center} = (3, -1)$$

$$\text{radius} = \sqrt{5}$$

4. Sketch the graph of the piecewise function $f(x) = \begin{cases} 2x - 4 & x \leq 1 \\ -1 & x > 1 \end{cases}$

(10 pts.)



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