Sols

MATH 141: QUIZ 1

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Name: _____

No phone or calculator. You must show all work to receive full credit. Simplify when applicable.

1. **(5 points)** Simplify the following expression:

$$\frac{\frac{1}{x^2}-\frac{1}{9}}{x-3}$$

$$\frac{\frac{9-x^2}{9x^2}}{x-3} = \frac{\frac{(3+x)(3-x)}{9x^2}}{x-3} = \frac{-(3+x)(x-3)}{9x^2}\cdot\frac{1}{x-3} = -\frac{3+x}{9x^2}$$

2. **(5 points)** Find the zeros of

$$f(x) = 2x^2 - 9x - 5$$

$$0 = 2x^2 - 9x - 5$$

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

$$x = -1/2 \ , \ x = 5$$

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3. **(1 point each)** Consider the equation below. Answer "True" or "False" for the following statements.

$$y = x^2 + 7$$

(a) y is a function of x

True

(b) y is an odd function.

False

(c) The domain of this function is $\mathbb{R}$.

True

(d) $f(1) = 2$

False

(e) $y = (x+1)(x-7)$

False