

Name:

Exam 4 Guide :: Math 111 :: November 12, 2015

1. Find the quotient and remainder of

$$\frac{x^3 - 3x^2 + 5x - 1}{x + 2}$$

2. Find all the zeros of $x^3 - x^2 - 41x + 105$. Hint: $x = 3$ is a zero.
3. Solve the equation. $30 = 10(2^{0.05t})$
4. Solve the equation. $\log(x) = 180$
5. Solve the equation. $\log(x^2 - 3) = 0$
6. Solve the equation. $10^{x^2-16} = 1$
7. Solve the equation. $10^{\log(x-3)} = 0$
8. Solve the equation. $\ln(e^{2x}) - x = 10$
9. Solve the equation. $\ln(x^2 - 25 + \frac{1}{e}) = -1$
10. Solve the equation. $\log(x - 3) + \log(x + 3) = 0$
11. Solve the equation. $\log(2^x) = 3$
12. Find the equation of the exponential equation of the form $y = Ca^x$ which passes through $(0, 4)$ and $(3, 15)$.

13. For the functions below fill in the blanks

$$f(x) = \frac{2x + 1}{x - 5}$$

Domain: _____

Horizontal Asy: _____ Vertical Asy: _____

x-Intercepts _____ y-Intercepts _____

$$f(x) = \frac{x^2 - 4}{x - 4}$$

Domain: _____

Horizontal Asy: _____ Vertical Asy: _____

x-Intercepts _____ y-Intercepts _____

$$f(x) = \frac{x^2 - 16}{x^3 - x^2 - 41x + 105}$$

Domain: _____

Horizontal Asy: _____ Vertical Asy: _____

x-Intercepts _____ y-Intercepts _____

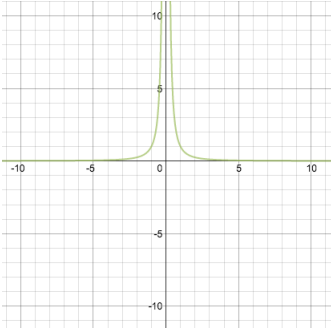
$$f(x) = \ln x + 15$$

Domain: _____

Horizontal Asy: _____ Vertical Asy: _____

x-Intercepts _____ y-Intercepts _____

14. For the graphs below fill in the blanks

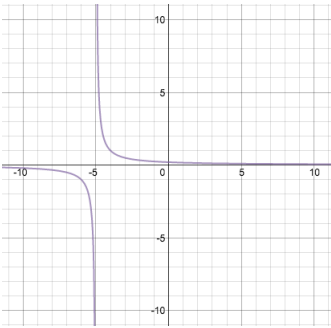


Domain: _____ Range: _____

Horizontal Asy: _____ Vertical Asy: _____

x-Intercepts _____ y-Intercepts _____

Possible $f(x)$: _____

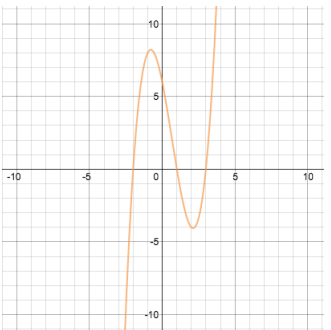


Domain: _____ Range: _____

Horizontal Asy: _____ Vertical Asy: _____

x-Intercepts _____ y-Intercepts _____

Possible $f(x)$: _____

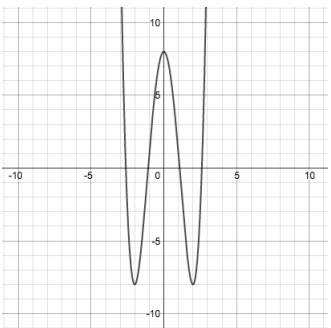


Domain: _____ Range: _____

Horizontal Asy: _____ Vertical Asy: _____

x-Intercepts _____ y-Intercepts _____

Possible $f(x)$: _____

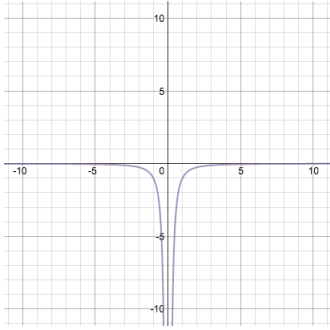


Domain: _____ Range: _____

Horizontal Asy: _____ Vertical Asy: _____

x-Intercepts _____ y-Intercepts _____

Possible $f(x)$: _____

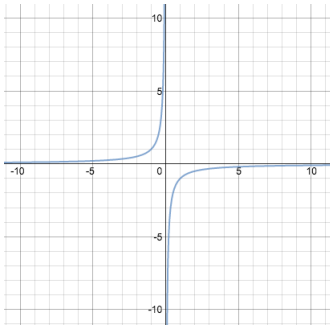


Domain: _____ Range: _____

Horizontal Asy: _____ Vertical Asy: _____

x-Intercepts _____ y-Intercepts _____

Possible $f(x)$: _____

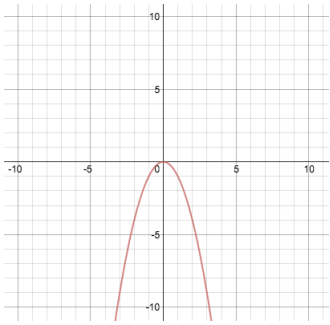


Domain: _____ Range: _____

Horizontal Asy: _____ Vertical Asy: _____

x-Intercepts _____ y-Intercepts _____

Possible $f(x)$: _____

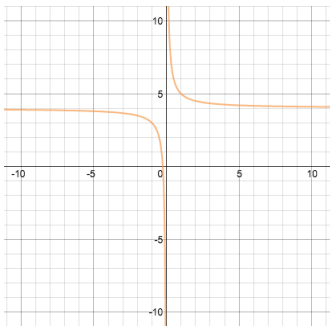


Domain: _____ Range: _____

Horizontal Asy: _____ Vertical Asy: _____

x-Intercepts _____ y-Intercepts _____

Possible $f(x)$: _____

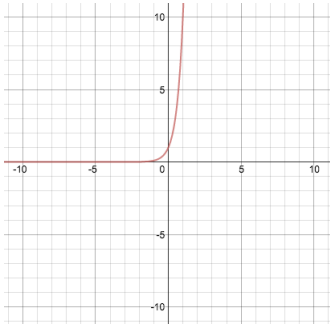


Domain: _____ Range: _____

Horizontal Asy: _____ Vertical Asy: _____

x-Intercepts _____ y-Intercepts _____

Possible $f(x)$: _____

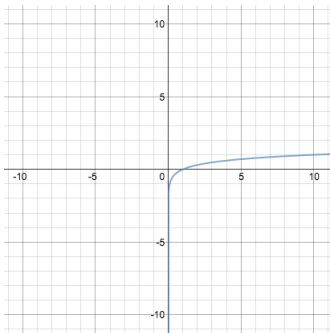


Domain: _____ Range: _____

Horizontal Asy: _____ Vertical Asy: _____

x-Intercepts _____ y-Intercepts _____

Possible $f(x)$: _____

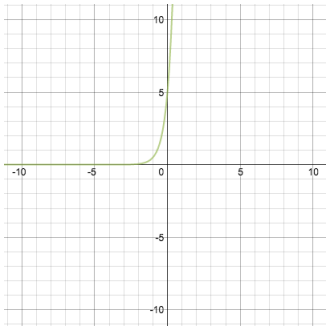


Domain: _____ Range: _____

Horizontal Asy: _____ Vertical Asy: _____

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Possible $f(x)$: _____

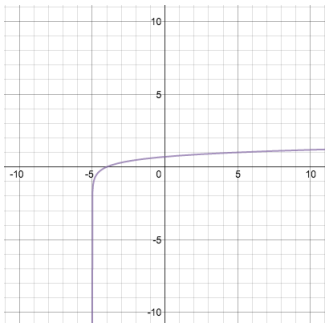


Domain: _____ Range: _____

Horizontal Asy: _____ Vertical Asy: _____

x-Intercepts _____ y-Intercepts _____

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Domain: _____ Range: _____

Horizontal Asy: _____ Vertical Asy: _____

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