

Name _____

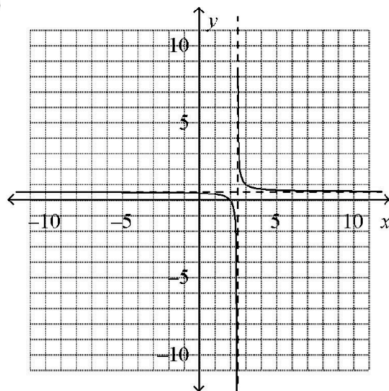
All work must be shown to receive credit for each problem.

- The y -intercept and x -intercept(s) of $f(x) = -3x(x+2)(x-4)$ are
 - y -intercept at $\langle 0, -8 \rangle$; x -intercept(s) at $\langle -2, 0 \rangle, \langle 4, 0 \rangle$
 - y -intercept at $\langle 0, -8 \rangle$; x -intercept(s) at $\langle 0, 0 \rangle, \langle -2, 0 \rangle, \langle 4, 0 \rangle$
 - y -intercept at $\langle 0, -8 \rangle$; x -intercept(s) at $\langle 2, 0 \rangle, \langle -4, 0 \rangle$
 - y -intercept at $\langle 0, 24 \rangle$; x -intercept(s) at $\langle 0, 0 \rangle, \langle -2, 0 \rangle, \langle 4, 0 \rangle$
- The zeros of the function $f(x) = 4x^3 - 3x^2 - 4x + 3$ occur at $x =$
 - $1, -1, \frac{3}{4}$
 - $1, \frac{3}{4}$
 - $1, -1, \frac{4}{3}$
 - $0, 3, -1, 1$
- What is the remainder when $x^3 - 7x^2 + 16x - 12$ is divided by $x - 3$
 - 5
 - $x - 2$
 - 0
 - 23
- What values of x satisfy $5x^3 - x^5 < 4x$?
 - $(-1 < x < 0) \vee (1 < x < 2)$
 - $(x < -2) \vee (x > 2)$
 - $(-2 < x < -1) \vee (0 < x < 1) \vee (x > 2)$
 - $(x < -1) \vee (1 < x < 2)$
- What values of x satisfy $\frac{x-7}{x+5} < 0$?
 - $-5 < x < 7$
 - $x < -5 \vee$
 - $x > 7$
 - $(x < -5) \vee (x > 7)$
- Find the inverse function for $f(x) = \frac{3x+1}{4}$.
 - $f^{-1}(x) = \frac{x-8}{7}$
 - $f^{-1}(x) = \frac{7x-8}{7}$
 - $f^{-1}(x) = \frac{y-8}{7}$
 - $f^{-1}(x) = \frac{x+8}{7}$
- What is the y -intercept of $2(5^x)$?
 - $\langle 0, 2 \rangle$
 - $\langle 0, 5 \rangle$
 - $\langle 0, 10 \rangle$
 - $\langle 0, 1 \rangle$
- Solve $5^{3x} = 25$ for x .
 - $\frac{2}{3}$
 - $\frac{3}{2}$
 - $-\frac{2}{3}$
 - $-\frac{3}{2}$

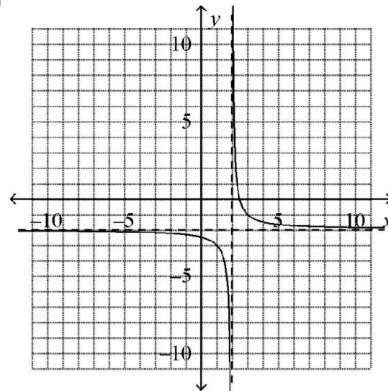
9. What is the value of $\ln(2^5)$
- (A) 5 (B) 2^5 (C) $2e^5$ (D) $5\ln 2$
10. When is $e^{\frac{1}{2}x} \leq 0$?
- (A) only at zero (C) when $\frac{1}{2}x$ is negative
- (B) never (D) at $\langle 0, 1 \rangle$
11. $e^{-\ln 2}$ is equal in value to
- (A) $\frac{1}{2}$ (B) -2 (C) $\ln 2$ (D) undefined
12. Evaluate $\log_{\frac{1}{3}} 27$.
- (A) -3 (B) $\frac{1}{3}$ (C) 9 (D) 3
13. $49^{\frac{3}{2}} = 343$ is equivalent to
- (A) $\log_{49} 343 = \frac{3}{2}$ (C) $\log_{49} \left(\frac{3}{2}\right) = 343$
- (B) $\log_{\frac{3}{2}} 49 = 343$ (D) $\log_{\frac{3}{2}} 343 = 49$
14. $\ln 2 + 2\ln 6 - \ln 9 =$
- (A) $\ln 8$ (B) $\ln 29$ (C) $\ln 5$ (D) $\ln 63$

15. Identify the graph of $y = \frac{5 - 2x}{x - 2}$

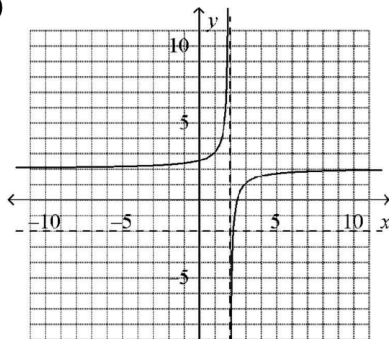
(A)



(C)



(B)



(D)

