

Name (printed legibly):

Directions: The quiz contains 20 problems, and each problem is worth one point. Place your answer in the blank provided. For graphing questions, a set of axes are provided. **Calculators are not allowed.**

For this quiz only, no partial credit will be given.

DUE: Friday Sept 13 at the beginning of class.

1. Evaluate $16^{-3/4}$.

2. Find the exact value of $\log_5\left(\frac{1}{25}\right)$.

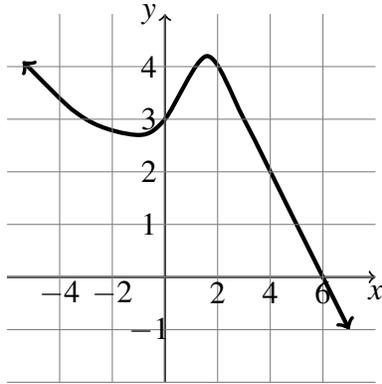
3. Find the exact value of $\tan\left(\frac{5\pi}{6}\right)$.

4. Simplify the expression $\left(\frac{x^4y}{3x^6y^{4/5}}\right)^2$. Write your answer without negative exponents.

5. Write an equation in slope-intercept form $y = mx + b$ for the line that passes through the points $(10, -2)$ and $(-4, 6)$.

6. Expand and simplify $x(4 + 2x) - (3 - x)^2$.

7. Use the graph of $f(x)$ below to estimate the value(s) of x such that $f(x) = 3$.



8. For the function $f(x) = \frac{8}{x}$, find the expression $f(4 + h) - f(4)$. Simplify your answer and **write your answer as a single fraction**.

9. Given the piecewise defined function below, determine the value(s) of x such that $f(x) = 12$.

$$f(x) = \begin{cases} 3x + 1 & x < 0 \\ x^5 & x \geq 0 \end{cases}$$

10. Solve for x in the equation $2x^2 = 15 - 7x$.

11. Solve for x in the equation $3e^{1-x} = 4$.

12. Find all solutions to the equation $1 + 2\sin(\theta) = 0$ in the interval $[0, 2\pi]$.

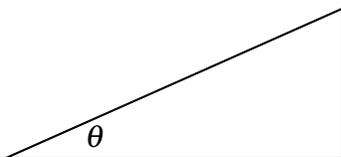
13. A table of values for the function $f(x)$ is given below. Use the table to determine $f^{-1}(4)$.

x	-2	0	2	4	6	8	10	12	14
$f(x)$	1	2	2.5	3	3.9	4	5	7	11

14. Solve the inequality $x^2 - 81 \leq 0$. Give your answer in interval notation.

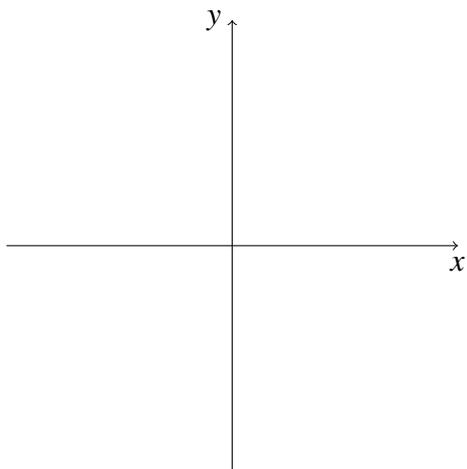
15. Determine the domain of $f(x) = \ln(2x + 1)$. Give your answer in interval notation.

16. In the triangle below, $\cos \theta = \frac{3}{7}$. Determine $\sin \theta$.

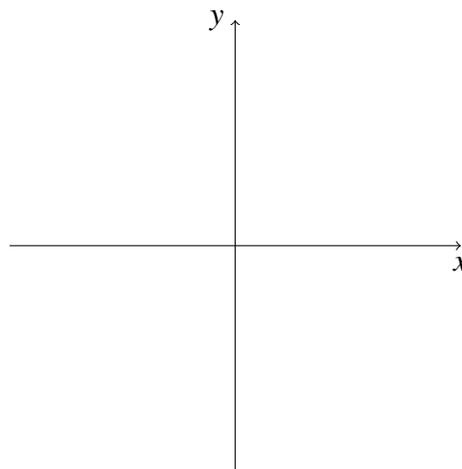


Sketch graphs of the following functions. Label the x - and y -intercepts, if they exist. Draw in any asymptotes using dashed lines, and write the equation of the asymptote, if it exists.

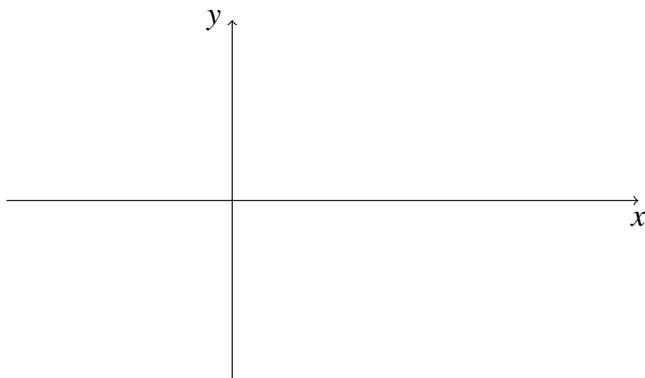
17. $f(x) = x^3 - 1$



18. $f(x) = 1 - e^x$



19. $y = \sin(x)$ on the interval $[-\pi, 3\pi]$



20. Given the graph of $f(x)$ below, draw the graph of $-2f(x)$.

