Warm-up Problems

1. For each of the exponential functions, convert it to the form $y = Ae^{kx}$.

    (a) $y = 5^x$

    (b) $y = 5^{2x}$

    (c) $y = 13 \cdot 5^x$

    (d) $y = 13 \cdot 5^{2x}$

2. Determine which, if any, of the functions below are the same functions.

    (a) $f(x) = x^3$

    (b) $g(w) = w^3$

    (c) $h(z) = \frac{z^4 - z^3}{z - 1}$

    (d) $Q(T) = \sqrt{x^6}$

3. Fill in the table (convert between degrees and radians):

Radians	0	π			$3\pi/4$	
Degrees			30	90		360

Lecture Problems

4. For the given functions, find an algebraic expression for the inverse function.
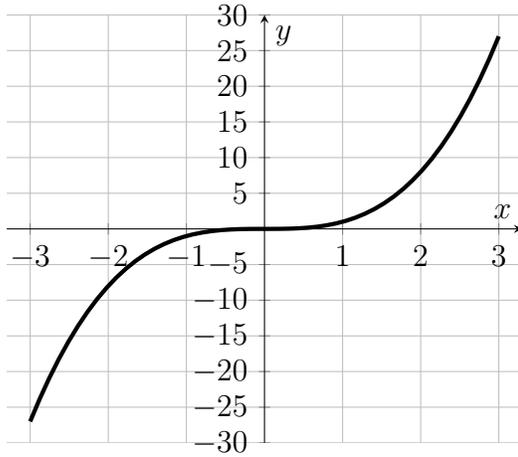
    (a) $f(x) = 3x + 2$

    (b) $f(x) = \sin x$

    (c) $f(x) = x^3 - 1$

    (d) $f(x) = (2x - 1)/(4x + 5)$

5. A graph of $f(x)$ is given below.

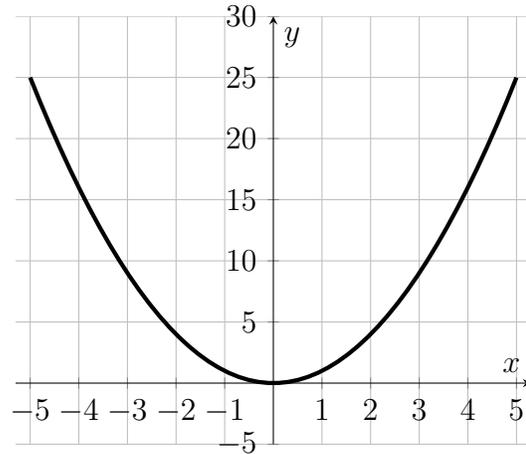(a) $f(2) =$

(b) $f(3) =$

(c) $f^{-1}(0) =$

(d) $f^{-1}(5) =$

(e) $f^{-1}(-15) =$

(f) $f^{-1}(20) =$

6. A graph of $f(x)$ is given below.

(a) $f(2) =$

(b) $f(3) =$

(c) $f^{-1}(0) =$

(d) $f^{-1}(5) =$

(e) $f^{-1}(-15) =$

(f) $f^{-1}(20) =$