

1. Find the domain of:

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

2. Explain how the following graph is obtained from the graph of $y = f(x)$.

(a) $y = f(x - 4)$

3. If $f(x) = \sin x$ and $g(x) = 1 - \sqrt{x}$ then find $f \circ g$ and $g \circ f$.

4. Find the domain of:

(a) $f(x) = \frac{1}{1+e^x}$

5. Find a formula for the inverse of

$$y = \frac{1 + e^x}{1 - e^x}$$

6. Solve for x :

(a) $e^{2x+3} - 7 = 0$

7. Find the exact value of the expression:

(a) $\sin^{-1}(\sqrt{3}/2)$

8. Find the average velocity over the following intervals for $s(t) = 2t^2 + 4$:

(a) $[1, 2]$

(b) $[1, 1.5]$

(c) $[1, 1.1]$

9. Find the instantaneous velocity when $t = 1$ from above.