

1. IF $f(x) = x^3 - x$ AND $g(x) = \frac{1}{x}$

FIND AND SIMPLIFY

a) $f(-\frac{3}{2})$ b) $f(g(x))$

c) $g(f(x))$ d) $\frac{f(x)}{x^3} + g(x^2)$

2. YOU CAN SELL 100 ITEMS FOR \$5 EACH.

EACH \$1 PRICE INCREASE DECREASES SALES BY ~~40~~. LET x BE THE NUMBER OF UNITS SOLD.

a) FIND THE PRICE FUNCTION $P(x)$, IF THE PRICE P AT WHICH x UNITS CAN BE SOLD

b) FIND THE REVENUE FUNCTION $R(x)$, IF THE REVENUE GENERATED BY x UNITS SOLD.

c) FIND THE OPTIMAL PRICE, IF THE PRICE P THAT MAXIMIZES REVENUE R .

3. SOLVE THE INEQUALITIES

a) $|x - 2| < 3$ b) $x^2 - 2x > 1$