

SQUARE ROOT Function Pretest

(A) Solve for x :

(a) $\sqrt{x-5} = 7$

(b) $4\sqrt{2-x} = 20$

(c) $\sqrt{x-1} \geq 4$

(d) $\sqrt{2-x} < +3$

(B) graph or perform a study of:

(a) $f(x) = 3\sqrt{x+1} - 1$

(b) $g(x) = -2\sqrt{4-x} + 2$

(C) find the rule for the square root function passing through:

(a) $V = (-1, -6)$ point $(3, -10)$

(b) $V = (+2, -4)$ point $(-2, -6)$

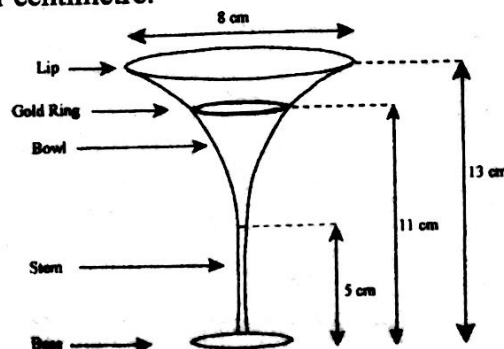
(D) Given $f(x) = 3\sqrt{x+4} - 2$

(a) find $f^{-1}(x)$

(b) state the domain and range of $f^{-1}(x)$

(E) $f(x) = -4\sqrt{x-1} + 8$ $g(x) = 3x + 1$ (a) $f(g(x)) = ?$ (b) $g(f(x)) = ?$

F A new glass has been designed by rotating part of a graph of a square root function about the axis containing the stem of the glass. (Assume the width of the stem to be zero.)
As illustrated in the diagram, the diameter of the lip of the bowl is 8 centimetres. The glass stands 13 centimetres in height and the top of the stem of the glass is 5 centimetres high.
A decorative gold ring is to be painted around the bowl 11 centimetres from the bottom of the glass, at a cost of 2 cents per centimetre.



How much will it cost to paint the gold ring around the bowl?