

SET 1: Basic Mathematics

Tutorial 7

1. Solve the following equations by using the quadratic formula:

(a) $x^2 + 4x - 32 = 0$ [Ans. 4, -8]

(b) $x^2 - 16 = 0$ [Ans. 4, -4]

(c) $2x^2 - x - 3 = 0$ [Ans. $-1, 1\frac{1}{2}$]

(d) $6x^2 - 5x + 1 = 0$ [Ans. $\frac{1}{2}, \frac{1}{3}$]

(e) $8x^2 + 2x - 15 = 0$ [Ans. $\frac{5}{4}, -\frac{3}{2}$]

(f) $x^2 - 4x + 4 = 0$ [Ans. 2]

(g) $3x^2 - 11x - 4 = 0$ [Ans. $4, -\frac{1}{3}$]

(h) $2x^2 + 5x - 4 = 0$ [Ans. $\frac{-5 + \sqrt{57}}{4}, \frac{-5 - \sqrt{57}}{4}$]

(i) $2x^2 - 7x + 4 = 0$ [Ans. $\frac{7 + \sqrt{17}}{4}, \frac{7 - \sqrt{17}}{4}$]

2. A company is going to produce a frame as a part of a new product. The frame will be cut out of a piece of steel, and to keep the weight down, the final area should be 80 cm^2 . The inside of the frame has to be 10cm by 6cm and as shown in the figure below. What should the width x be? [Ans. 2cm]

