

## 5<sup>th</sup> Year Algebra Chapter 2 Test 2

Student: \_\_\_\_\_

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1. Solve the equation  $x^2 - 6x + 5 = 0$ .

Hence solve fully the equation

$$\left(t - \frac{6}{t}\right)^2 - 6\left(t - \frac{6}{t}\right) + 5 = 0.$$

**11.** If  $r_1$  and  $r_2$  are the roots of the equation  $x^2 - \sqrt{3}x - 6 = 0$ , evaluate  $r_1r_2$ .

**10.** Find the range of values of  $k$  so that  $kx^2 - 2kx - 3k - 12 = 0$  has real roots.

**4.** Show that  $\frac{-1 + \sqrt{3}}{1 + \sqrt{3}} = 2 - \sqrt{3}$ .

**15.** Factorise fully  $x^3 - x^2 - 14x + 24$ .

Hence solve the equation  $x^3 - x^2 - 14x + 24 = 0$ .

Find a cubic function for this curve

(i)

