

**Question 1:**

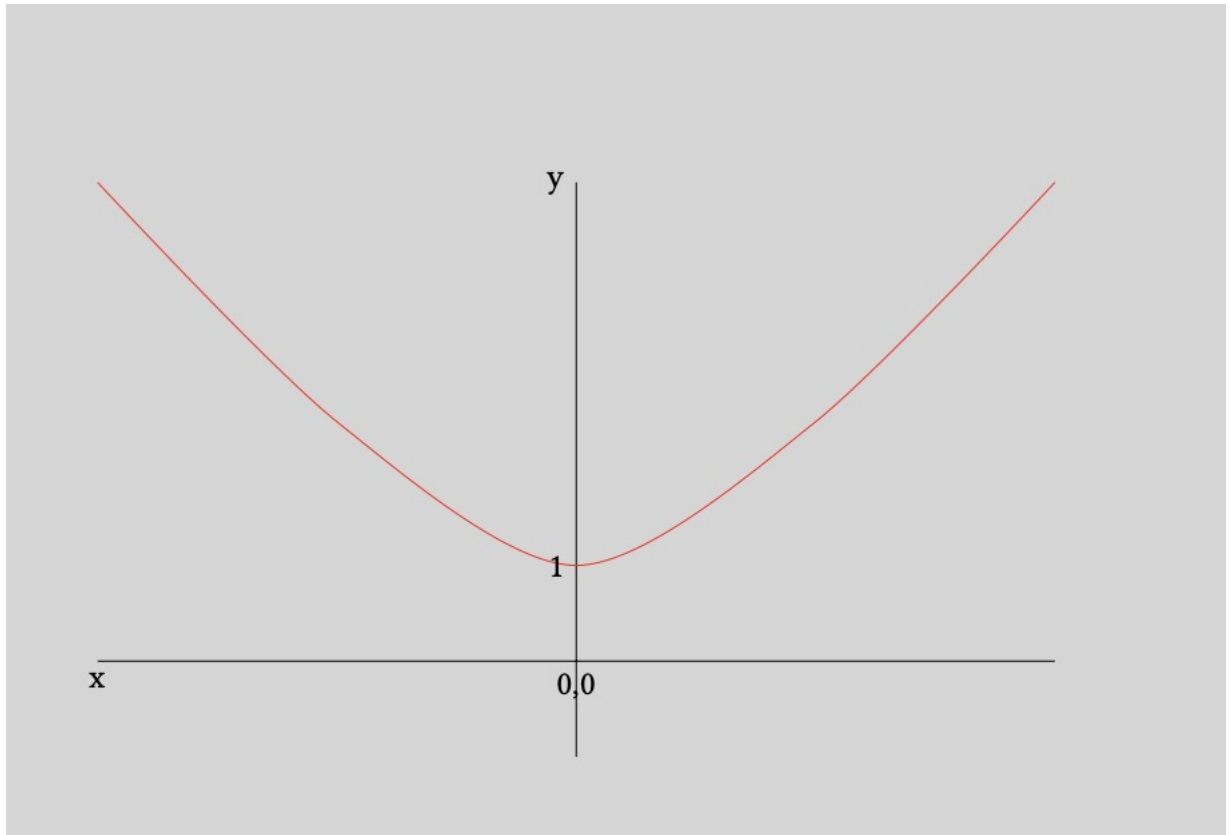
$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$



**Question 2:**

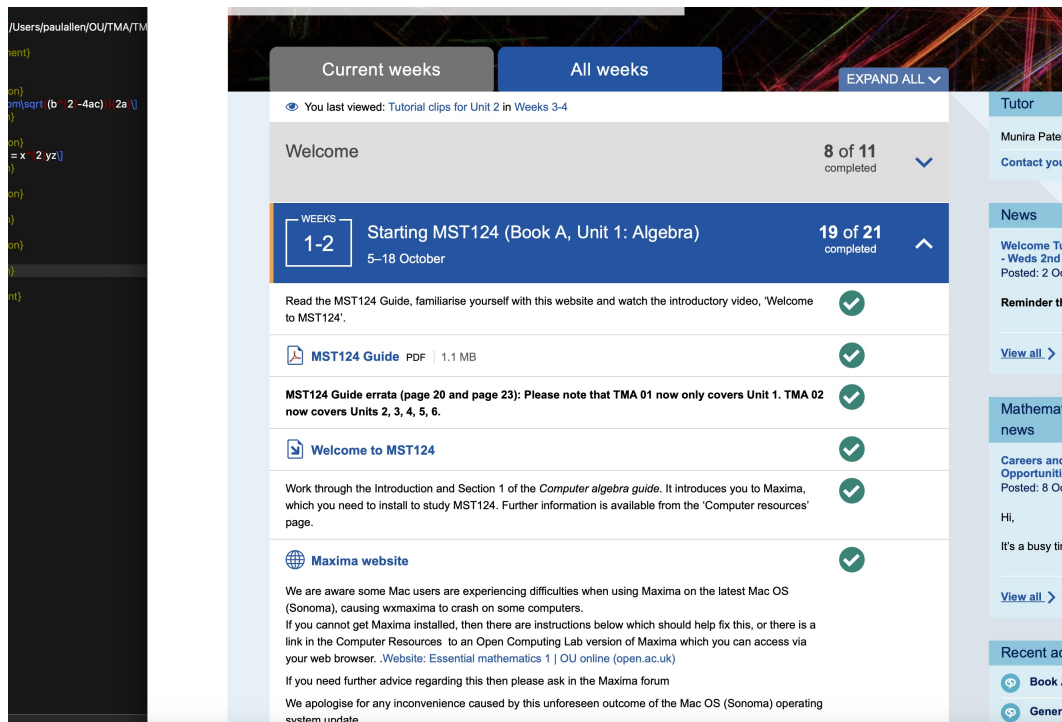
$$xy \times xz = x^2yz$$



**Question 3:**

Remember not to use computer generating software to produce graphs when asked to sketch. You may however use drawing software.

## Question 4:



The screenshot shows the MST124 website interface. At the top, there are tabs for 'Current weeks' and 'All weeks', with 'All weeks' selected. Below the tabs, a message states 'You last viewed: Tutorial clips for Unit 2 in Weeks 3-4'. The main content area is titled 'Welcome' and shows '8 of 11 completed'. A section for 'Starting MST124 (Book A, Unit 1: Algebra)' is highlighted, indicating '19 of 21 completed' for the period '5-18 October'. Below this, a list of resources is shown, each with a green checkmark indicating completion:

- Read the MST124 Guide, familiarise yourself with this website and watch the introductory video, 'Welcome to MST124'.
- MST124 Guide PDF | 1.1 MB
- MST124 Guide errata (page 20 and page 23): Please note that TMA 01 now only covers Unit 1. TMA 02 now covers Units 2, 3, 4, 5, 6.
- Welcome to MST124
- Work through the Introduction and Section 1 of the *Computer algebra guide*. It introduces you to Maxima, which you need to install to study MST124. Further information is available from the 'Computer resources' page.
- Maxima website

The right sidebar contains sections for 'Tutor' (Munira Patel), 'News' (Welcome Tutorial - Weds 2nd Oct), 'Mathematics news' (Careers and Opportunities), and 'Recent activity' (Book A, General).



The study calendar can be found under the 'resources' tab

**Question 5:** Solve the equation:

$$\frac{x}{5} - (1 + x) = \frac{2}{3}$$

Eliminate fractions by multiplying by the LCM, 15.

$$15 \left[ \frac{x}{5} - (1 + x) \right] = 15 \cdot \frac{2}{3}$$



Distribute the 15.

$$\frac{15x}{5} - 15(1 + x) = \frac{30}{3}$$

Simplify.



$$3x - 15 - 15x = 10$$

Combine like terms.

$$-12x - 15 = 10$$

Add 15 to both sides to isolate  $x$ .

$$-12x = 25$$



Divide by  $-12$  to solve for  $x$ .

$$x = \frac{-25}{12}$$