

1. Quadratic equations

1. Given that $25x^2 - 20x + k$ is a perfect square. Find the value of k . (2 mks)

2. Simplify $\frac{2y^2 - xy - x^2}{2x^2 - 2y^2}$ (3mks)

3. Solve the following quadratic equation giving your answer to 3 d.p. (3mks)

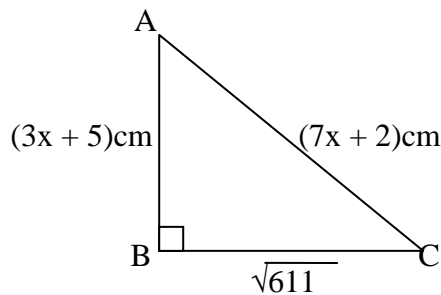
$$\frac{23}{x} - \frac{1}{x^2} - 120 = 0.$$

4. Simplify (3 mks)

$$\frac{16x^2 - 4}{4x^2 + 2x - 2} \div \frac{2x - 2}{x + 1}$$

5. Simplify as simple as possible $\frac{(4x + 2y)^2 - (2y - 4x)^2}{(2z + y)^2 - (y - 2x)^2}$ (3 mks)

6. In a triangle ABC, angle B is 90° . Find the value of x and hence the area of the triangle



7. Solve the following inequalities and represent the solution on a number line hence state the integral values $7x - 4 \leq 9x + 2 < 3x + 14$