

1.7 Homework

GCSE Mathematics Algebraic Fractions

Marks Available : 30

Simplify the following algebraic expressions by first factorising the quadratics:

(i) $\frac{x^2 + 5x + 6}{x^2 + 8x + 12}$

[3 marks]

(ii) $\frac{x^2 + 6x + 9}{x^2 + 7x + 12}$

[3 marks]

(iii) $\frac{x^2 + 15x + 50}{x^2 + 9x + 20}$

[3 marks]

(iv) $\frac{x^2 + 7x + 12}{x^2 + 9x + 20}$

[3 marks]

(v) $\frac{x^2 + 13x + 22}{x + 11} + \frac{x^2 + 8x + 16}{x + 4}$

[3 marks]

$$(vi) \quad \frac{x^2 + 10x + 16}{x + 2} + \frac{x^2 + 8x + 15}{x + 5}$$

[3 marks]

$$(vii) \quad \frac{x^2 - 6x + 9}{x^2 - 7x + 12}$$

[3 marks]

$$(viii) \quad \frac{x^2 - 13x + 40}{x^2 - 10x + 25}$$

[3 marks]

$$(ix) \quad \frac{x^2 + 18x + 80}{x + 10} + \frac{x^2 - 7x + 10}{x - 2}$$

[3 marks]

$$(x) \quad \frac{x^2 + 8x + 12}{x + 2} + \frac{x^2 - 13x + 36}{x - 4}$$

[3 marks]

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Teachers may obtain detailed worked solutions to the exercises by email from mhh@shrewsbury.org.uk