

**"Simplify rational expressions by factorising and cancelling."  
(Standard)**

---

**Question 1**

Factorise fully

$$25x - 10$$

---

**Question 2**

Factorise fully

$$x^2 - 3x - 40$$

---

**Question 3**Factorise completely  $9x - 4x^3$ .**(3 marks)**

---

**Question 4**

Factorise fully

$$3x^2 + 11x - 4$$

---

**Question 5**

Factorise fully

$$3x^2 - 75$$

---

**Question 6**

Factorise fully

$$4x^3 - 16x$$

---

---

**Question 7**

Factorise fully

$$4x^2 - 4$$

---

**Question 8**

Factorise fully

$$2x^3 - x^2 - 3x$$

---

**Mark scheme****Question 1**

$$5(5x - 2)$$

**Question 2**

$$(x - 8)(x + 5)$$

**Question 3**

$$x(3 + 2x)(3 - 2x) \text{ or } -x(2x + 3)(2x - 3)$$

$9x - 4x^3 = x(9 - 4x^2) \text{ or } -x(4x^2 - 9)$	Takes out a common factor of $x$ or $-x$ <b>correctly.</b>	B1
$9 - 4x^2 = (3 + 2x)(3 - 2x) \text{ or}$ $4x^2 - 9 = (2x - 3)(2x + 3)$	$9 - 4x^2 = (\pm 3 \pm 2x)(\pm 3 \pm 2x) \text{ or}$ $4x^2 - 9 = (\pm 2x \pm 3)(\pm 2x \pm 3)$	M1
$9x - 4x^3 = x(3 + 2x)(3 - 2x)$	Cao but allow equivalents e.g. $x(-3 - 2x)(-3 + 2x) \text{ or } -x(2x + 3)(2x - 3)$	A1

**Question 4**

$$(3x - 1)(x + 4)$$

**Question 5**

$$3(x - 5)(x + 5)$$

**Question 6**

$$4x(x - 2)(x + 2)$$

**Question 7**

$$4(x - 1)(x + 1)$$

**Question 8**

$$x(2x - 3)(x + 1)$$