1. i. Sketch the curve $y = (1 + x)(2 - x)(3 + x)$, giving the coordinates of all points of intersection with the axes.

[3]

ii. Describe the transformation that transforms the curve $y = (1 + x)(2 - x)(3 + x)$ to the curve $y = (1 - x)(2 + x)(3 - x)$.

[2]

2. i. Sketch the curve $y = 2x^2 - x - 6$, giving the coordinates of all points of intersection with the axes.

[5]

ii. Find the set of values of x for which $2x^2 - x - 6$ is a decreasing function.

[3]

iii. The line $y = 4$ meets the curve $y = 2x^2 - x - 6$ at the points P and Q. Calculate the distance PQ.

[4]

3.

i. Sketch the curve $y = \frac{2}{x^2}$.

[2]

ii. The curve $y = \frac{2}{x^2}$ is translated by 5 units in the negative x-direction. Find the equation of the curve after

it has been translated.

[2]

iii. Describe a transformation that transforms the curve $y = \frac{2}{x^2}$ to the curve $y = \frac{1}{x^2}$.

[2]

4. i. Sketch the curve $y = 2x^2 - x - 3$, giving the coordinates of all points of intersection with the axes.

[4]

ii. Hence, or otherwise, solve the inequality $2x^2 - x - 3 > 0$.

[2]

iii. Given that the equation $2x^2 - x - 3 = k$ has no real roots, find the set of possible values of the constant k.

[3]

5.

i. Sketch the curve $y = -\frac{1}{x}$.

[2]

ii. The curve $y = -\frac{1}{x}$ is translated by 2 units parallel to the x-axis in the positive direction. State the equation of the transformed curve.

[2]

iii. Describe a transformation that transforms the curve $y = -\frac{1}{x}$ to the curve $y = -\frac{1}{3x}$.

[2]

6. The curve $y = f(x)$ passes through the point P with coordinates (2, 5).

(i) State the coordinates of the point corresponding to P on the curve $y = f(x) + 2$.

[1]

(ii) State the coordinates of the point corresponding to P on the curve $y = f(2x)$.

[1]

(iii) Describe the transformation that transforms the curve $y = f(x)$ to the curve $y = f(x + 4)$.

[2]

7. i. Sketch the curve $y = x^2(3 - x)$ stating the coordinates of points of intersection with the axes.

[3]

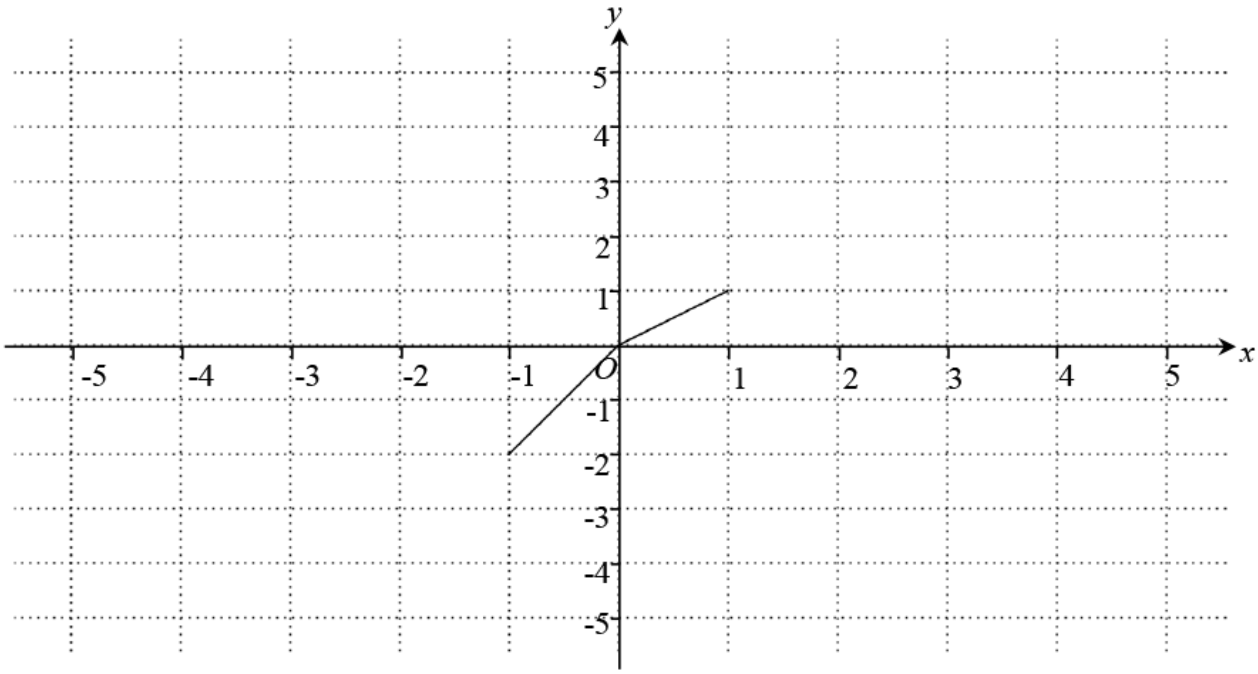
ii. The curve $y = x^2(3 - x)$ is translated by 2 units in the positive direction parallel to the x-axis. State the equation of the curve after it has been translated.

[2]

iii. Describe fully a transformation that transforms the curve $y = x^2(3 - x)$ to $y = \frac{1}{2}x^2(3 - x)$.

[2]

8. The diagram below shows the graph of $y = f(x)$.

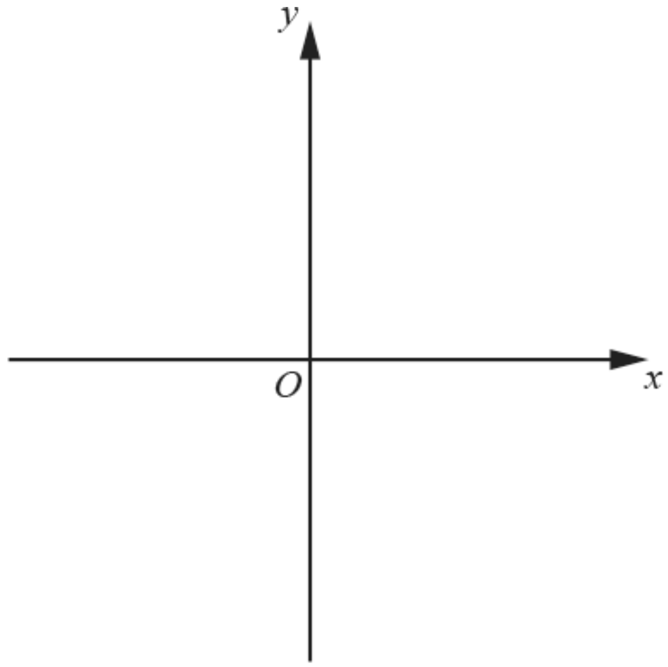


(a) On the diagram above, draw the graph of $y = f(\frac{1}{2}x)$. [1]

(b) On the diagram above, in a different colour, draw the graph of $y = f(x - 2) + 1$. [2]

9.

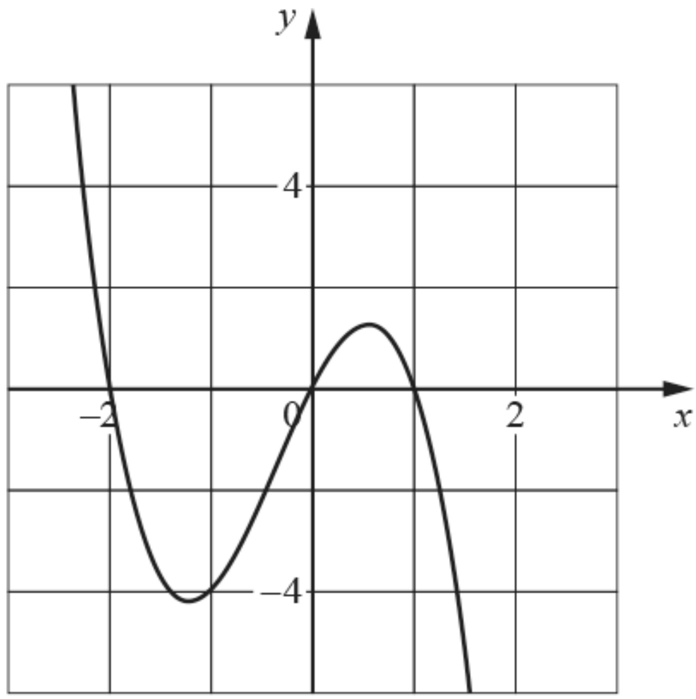
(a) Sketch the curves $y = \frac{3}{x^2}$ and $y = x^2 - 2$ on the axes provided below. [3]



(b) **In this question you must show detailed reasoning.**

Find the exact coordinates of the points of intersection of the curves $y = \frac{3}{x^2}$ and $y = x^2 - 2$. [6]

10. Part of the graph of $y = f(x)$ is shown below, where $f(x)$ is a cubic polynomial.



(a) Find f(–1). [1]

(b) Write down three linear factors of f(x). [1]

It is given that $f(x) \equiv ax^3 + bx^2 + cx + d$.

(c) Show that $a = -2$. [3]

(d) Find b, c and d. [1]

11. Show in a sketch the region of the x-y plane within which all three of the following inequalities are satisfied.

$$3y \geq 4x \qquad y - x \leq 1 \qquad y \geq (x-1)^2$$

You should indicate the region for which the inequalities hold by labelling the region R. [4]

12. The cubic polynomial f(x) is defined by $f(x) = 2x^3 - 7x^2 + 2x + 3$.

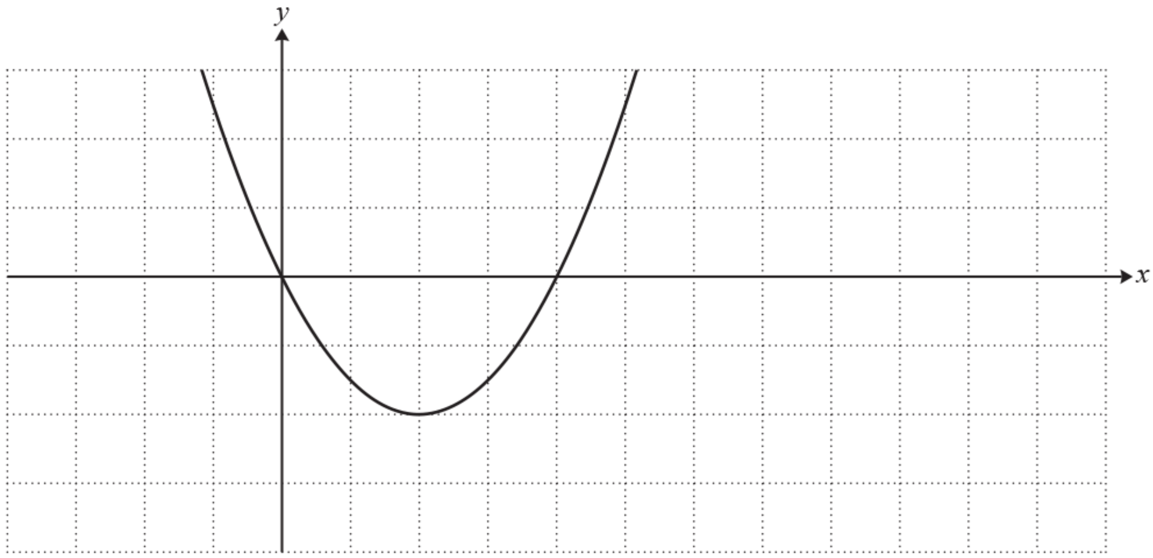
(a) Given that $(x - 3)$ is a factor of f(x), express f(x) in a fully factorised form. [3]

(b) Sketch the graph of $y = f(x)$, indicating the coordinates of any points of intersection with the axes. [2]

(c) Solve the inequality $f(x) < 0$, giving your answer in set notation. [2]

(d) The graph of $y = f(x)$ is transformed by a stretch parallel to the x-axis, scale factor $\frac{1}{2}$. Find the equation of the transformed graph. [2]

13.

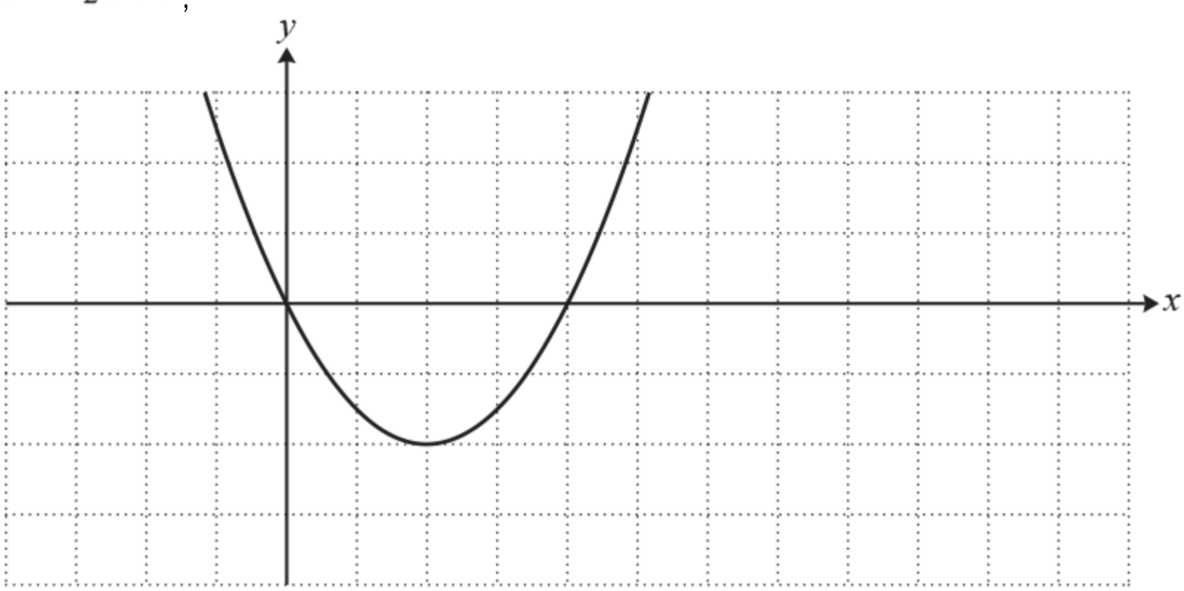


The diagram shows the graph of $y = g(x)$.

Using the same scale as in this diagram, sketch, on the copy of the diagram below, the curves:

[2]

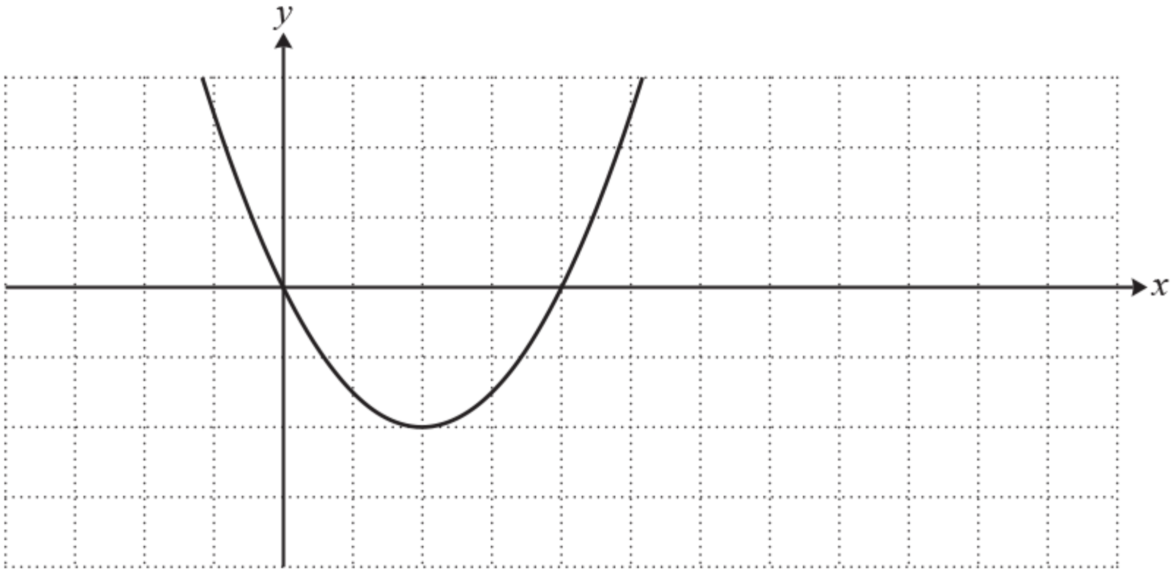
(a) $y = \frac{3}{2}g(x)$,



$y = g\left(\frac{1}{2}x\right)$.

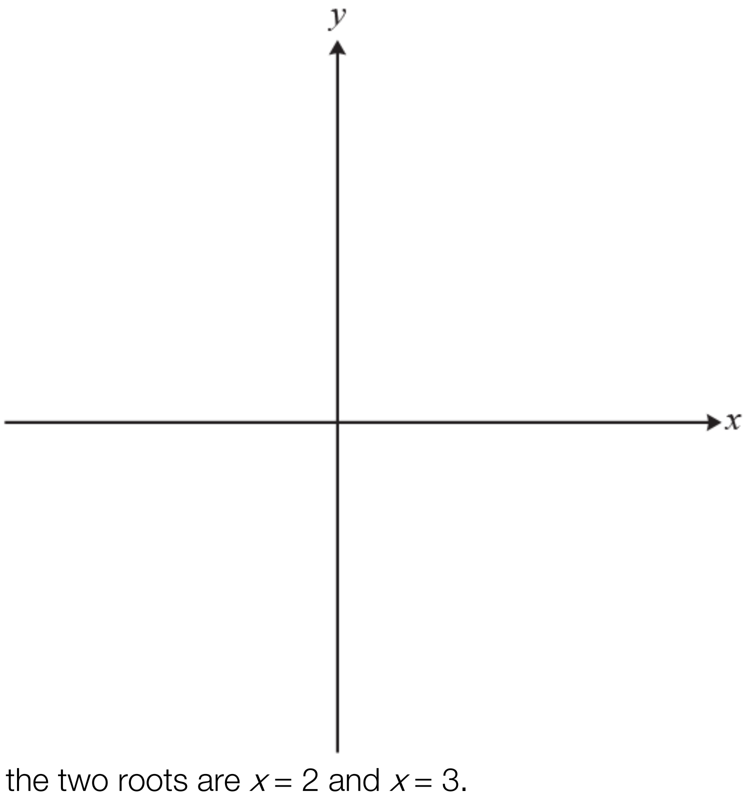
[2]

(b)



14. f(x) is a cubic polynomial in which the coefficient of x^3 is 1. The equation f(x) = 0 has exactly two roots.

(a) Sketch a possible graph of y = f(x). [2]

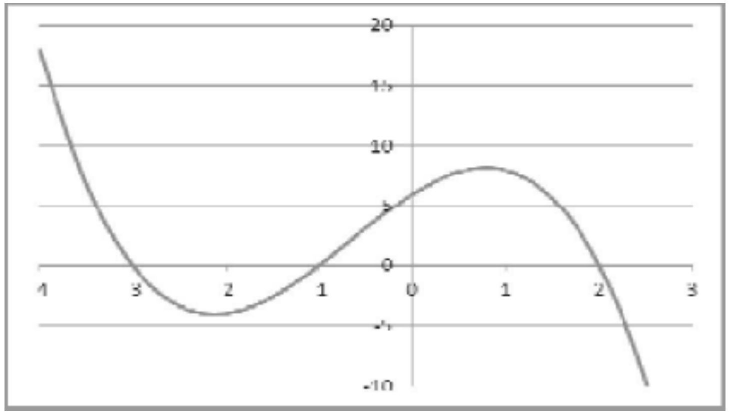


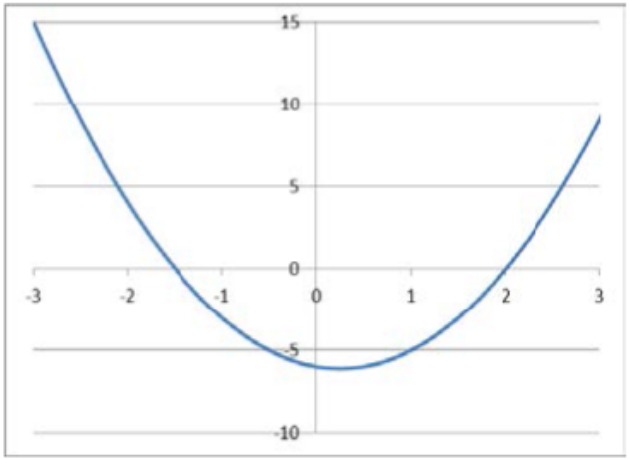
It is now given that the two roots are $x = 2$ and $x = 3$.

(b) Find, in expanded form, the two possible polynomials f(x). [3]

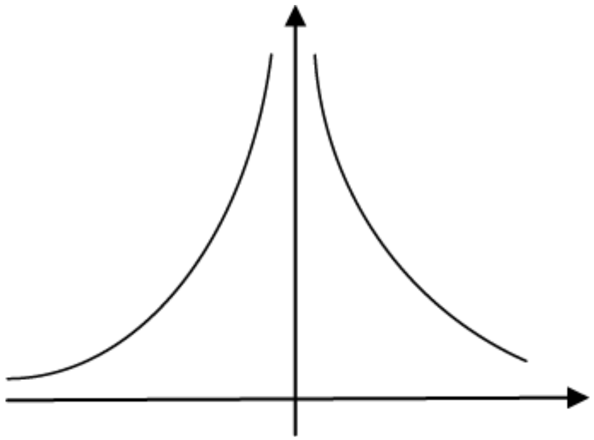
END OF QUESTION paper

Mark scheme

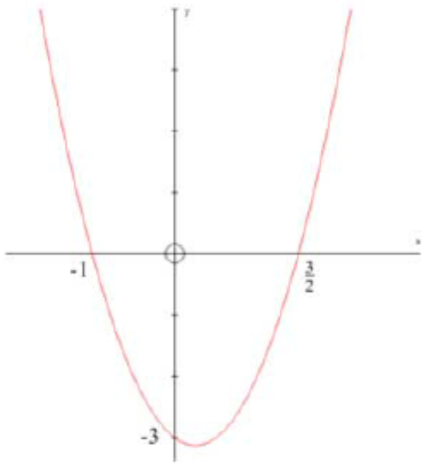
Question			Answer/Indicative content	Marks	Part marks and guidance
1		i		B1	–ve cubic with 3 distinct roots
		i		B1	(0, 6) labelled or indicated on y-axis – seen elsewhere not enough
		i		B1	(–3, 0), (–1, 0) and (2, 0) labelled or indicated on x-axis and no other x-intercepts. <u>Examiner's Comments</u> Most candidates recognised that the cubic was negative and sketched an appropriate curve with correct y- and x- intercepts clearly labelled. Some candidates who multiplied out the full expression made an error in finding the y-intercept; others with an otherwise correct solution omitted this. Those who drew a positive cubic did not normally see that this contradicted the required value on one of their axes.
		ii	Reflection	B1	Not mirrored / flipped etc.
		ii	in the y axis	B1	or x = 0. No / through / along etc. Must be "in". Cannot get 2nd B1 without some indication of a reflection e.g. flip etc. Do not **ISW** if contradictory statement seen <u>Examiner's Comments</u> Although the majority of candidates recognised the transformation as being a reflection, their skills in describing this using correct

					mathematical language were inadequate. Many chose the wrong axis and even those who were correct used words like “flip”, “mirror” and were reflecting “along” or “through” or “parallel to” the *y*-axis; these did not gain credit. Centres need to continue to develop candidates’ use of vocabulary when describing transformations.
			Total	5	
2		i	$(2x + 3)(x - 2) = 0$ $x = -\frac{3}{2},\ x = 2$	M1	Correct method to find roots
		i		A1	Correct roots
		i		B1	Reasonably symmetrical positive quadratic curve, must cross *x* axis
		i		B1	*y* intercept (0, −6) only
		i		B1	Good curve, with correct roots indicated and min point in 4th quadrant (not on axis) **Examiner's Comments** This graph proved much more accessible than the one in Q5, with around four-fifths of candidates securing four or five marks. Almost all realised it was a positive quadratic and many were successful in factorising to obtain the two *x*-intercepts, although there were some sign errors. Most realised the *y*-intercept was (0, −6) but a significant number used this as the turning point

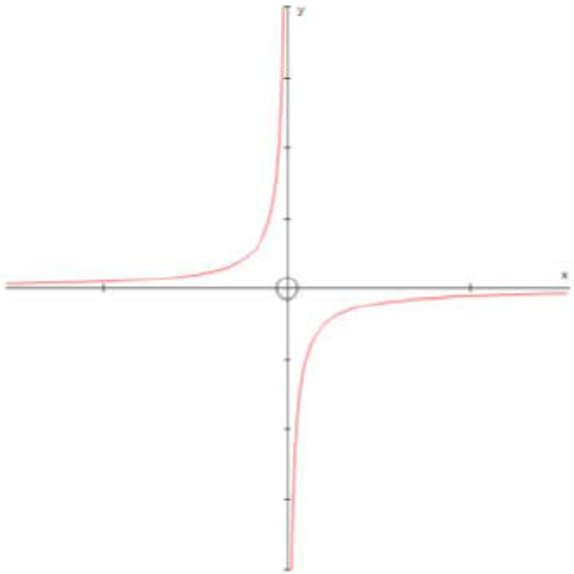
					rather than using the *x*-intercepts to locate the turning point. Some candidates who were successful in part (ii) had the wisdom to return and correct an error in this part.
		ii	$\frac{dy}{dx} = 4x - 1 = 0$	M1	Attempt to find *x* coordinate of vertex by differentiating and equating / comparing to zero, completing the square, finding the midpoint of their roots oe
		ii	Vertex when $x = \frac{1}{4}$	A1	cao
		ii	$x < \frac{1}{4}$	A1FT	$x <$ their vertex, allow ≤ **Examiner's Comments** Many candidates did not understand the term "decreasing function" and instead gave the region between their roots found in part (i); indeed nearly half of candidates failed to score at all in this part. Those that approached by differentiation were usually more successful in finding the minimum point than those who completed the square.
		iii	$2x^2 - x - 6 = 4$	M1	Set quadratic expression equal to 4
		iii	$2x^2 - x - 10 = 0$		
		iii	$(2x - 5)(x + 2) = 0$	M1	Correct method to solve **resulting** three term quadratic
		iii	$x = \frac{5}{2}, x = -2$	A1	Must have both solutions – no mark for one spotted root
		iii	Distance $PQ = 4½$	B1FT	FT from their *x* values found from their resulting quadratic, provided $y = 4$ **Examiner's Comments** Around three quarters of candidates secured the first three marks of this question, equating to 4, simplifying and solving to find the *x* values of *P* and *Q*. Again, factorisation was both the most appropriate and most frequent approach. Rather than then subtracting these values, many saw the word "distance", used the "distance formula" and re-substituted to find *y* (not always getting 4) and then used Pythagoras' theorem. This led to a lot of unnecessary arithmetical difficulty.
			Total	12	

3		i		B1	Excellent curve for $y = \frac{2}{x^2}$ n either quadrant
		i		B1	Excellent curve for $y = \frac{2}{x^2}$ n other quadrant and no more. **SC B1** Reasonably correct curves in 1st and 2nd quadrants and no more
		i			**Examiner's Comments** Graph sketching continues to prove challenging for many candidates. In this case, both the shape and the choice of quadrants proved demanding with fewer than 60% of candidates securing both marks. It would help if candidates were to equip themselves with a ruler to draw axes as perhaps their intention with asymptotic graphs would then be clearer. With regard to the shape, too many candidates drew an "L" shaped diagram with large sections parallel to, rather than approaching, the axes; this lost marks.
		ii	$y = \frac{2}{(x+5)^2}$	M1	$\frac{2}{(x+5)^2}$ or $\frac{2}{(x-5)^2}$ seen
		ii		A1	Fully correct, must include "y =" or "f(x) =" **Examiner's Comments**

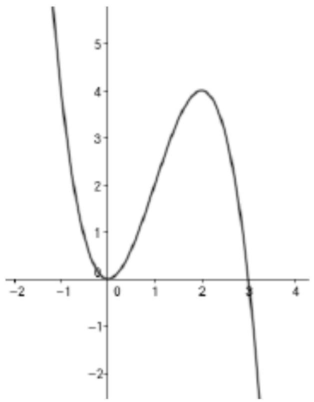
					Transformations of this type still prove difficult for candidates, with $y = \frac{2}{x^2+5}$ the most common incorrect answer. Again, fewer than 60% provided a fully correct equation.
		iii	Stretch	B1	Or "stretched" etc; **do not accept** squashed, compressed etc.
		iii	scale facto $\frac{1}{2}$ parallel to *y*-axis	B1	**oe** e.g. scale factor $1/\sqrt{2}$ parallel to *x*-axis **Examiner's Comments** Mathematical description of transformations also continues to prove a challenge. Although around four in five candidates were successful in choosing the word stretch (many of those who did not used "squash" or similar colloquialisms), only about half of these could correctly describe its scale factor and direction. Many used incorrect language with references to "in/along/by/on/across the *y* axis", rather than "parallel to the *y* axis".
			Total	**6**	
4		i	$(2x - 3)(x + 1) = 0$	M1	Correct method to find roots – **see appendix 1**
		i	$x = \frac{3}{2}, x = -1$	A1	Correct roots

		i		A1ft	Good curve: • Correct shape, symmetrical positive quadratic • Minimum point in the correct quadrant for their roots **(ft)** • their *x* intercepts correctly labelled **(ft)**
		i		B1	*y* intercept at (0, –3). Must have a graph. **Examiner's Comments** Most candidates recognised this as a quadratic and provided an appropriate sketch, although there was a tendency for some to become steep/vertical extremely quickly rather indicate increasing gradient. The points of intersection on the *x*-axis were usually accurate with the occasional sign swaps. Although the *y*-intercept was usually correctly identified as –3, it was very common to see this as vertex of the graph which lost an accuracy mark; candidates were expected to indicate the vertex would be in the correct quadrant for their roots
		ii	$x < -1, x > \dfrac{3}{2}$	M1	Chooses the “outside region”
		ii		A1ft	Follow through *x*-values in (i). Allow “$x < -1, x > \dfrac{3}{2}$”, “$x < -1$ **or** $x > \dfrac{3}{2}$” but do not allow “$x < -1$ **and** $x > \dfrac{3}{2}$” **Examiner's Comments**

					Most candidates used their answer to part (i) and chose the correct outside region, although choosing the inside region was a frequently seen error. The notation used to describe the region was usually correct; incorrect language such as joining the two sections with the word 'and' lost the accuracy mark.
		iii	$b^2 - 4ac = 1^2 - 4 \times 2 \times -(3 + k)$	M1	Rearrangement and use of $b^2 - 4ac < 0$, must involve 3 and k in constant term (not $3k$)
		iii	$25 + 8k < 0$	A1	$p + 8k < 0$ oe found, any constant p. p need not be simplified
		iii	$k < -\dfrac{25}{8}$	A1	Correct final answer **Examiner's Comments** This proved demanding for many candidates. Although some secured all three marks, many earned no credit as they either put the discriminant equal to zero or, as was frequently seen, to k, making no attempt to rearrange the given equation. Accuracy marks were often lost as candidates failed to deal with the minus signs both in the discriminant and in the expression for c. A few candidates found the turning point of their graph either by differentiation or by completing the square but these approaches were far less common.
			Total	9	

5		i		B2	Excellent curve in both quadrants: • correct shape, symmetrical, not touching axes • asymptotes clearly the axes • not finite • allow slight movement away from asymptote at one end but not more. **Examiner's Comments** The vast majority of candidates chose the correct quadrants and basic shape for their sketch to earn one mark and many earned the second mark with a good sketch. Often the second mark was withheld due to inaccuracies such as not clearly indicating the graph tended towards the axes as asymptotes; many graphs ran parallel to the axes for a considerable portion of their length. Others touched or even crossed the axes.
		ii		M1	$(y=)-\frac{1}{x-2}$ or $(y=)-\frac{1}{x+2}$
		ii	$y=-\frac{1}{x-2}$ oe	A1	Fully correct, must include "$y =$" **Examiner's Comments** Although there was some confusion with signs amongst the lowest attaining candidates, the majority earned both marks for correctly stating the new equation of the curve. It was relatively rare to see the translation mistakenly performed vertically, which represents a considerable improvement on previous sessions.
		iii	Stretch	B1	Stretch or "stretched" etc.; **do not accept** squashed, compressed, enlarged etc.
		iii	Scale factor $\frac{1}{3}$ parallel to the x-axis (or y-axis)	B1	Correct description Condone just "factor $\frac{1}{3}$" but **no reference to units.** Must not follow e.g. "reflection"

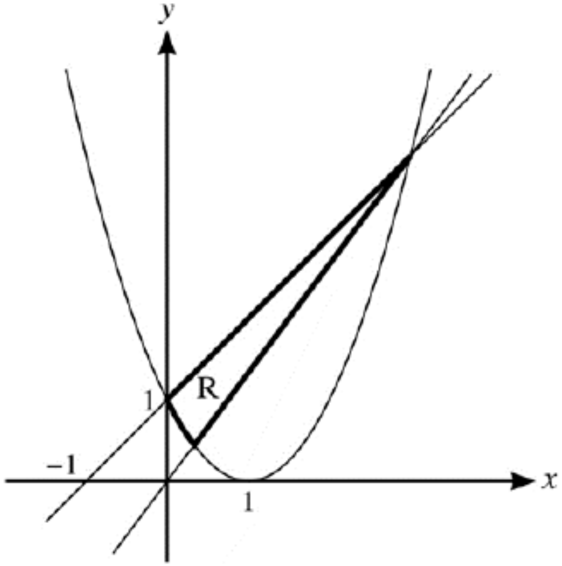
					Examiner's Comments Most candidates knew that this was a stretch and used the correct word, although incorrect descriptions such as 'squash', 'squish' and 'enlargement' were seen again. The scale factor proved more difficult with many erroneously giving 3. There has been an improvement in describing the direction, with 'parallel to the x-axis'(or y-axis in this case as either is appropriate for this graph) often seen, although some candidates still use incorrect language such as 'along the axis.'
			Total	6	
6		i	(2, 7)	B1	**Examiner's Comments** This simple translation was recognised and the vast majority of candidates secured the mark.
		ii	(1, 5)	B1	**Examiner's Comments** This stretch proved much more demanding with only just over half of candidates obtaining the correct coordinate. Although (4, 10) was the modal incorrect answer, there were many other common errors involving halving/doubling either of, or both, the x or y values
		iii	Translation	B1	Translation Correct description e.g. correct vector (not as a coordinate), "4 units to the left" **Do not allow second B1 after incorrect type of transformation e.g. stretch/rotation etc. but allow after shift/move etc.**
		iii	– 4 units parallel to the x axis	B1	**Examiner's Comments** Compared to previous sessions, candidates' attempts to describe a translation were better. The use of incorrect athematical language, e.g. using "shift" or "move" and/or expressions like "in/along/on the x axis" were common. Several candidates erroneously stated " – 4 units in the negative x direction"; other errors included "translated by scale factor 4" and translation parallel to the y axis.
			Total	4	

7		i		B1 B1 B1	Negative cubic with a max and a min Cubic that meets y-axis at (0, 0) only Double root at (0, 0) and single root at (3, 0) and no other roots
		ii	$y = (x - 2)^2 (5 - x)$	M1	Translates curve by +2 or − 2 parallel to the x-axis; must be consistent
		ii	or $y = 3(x - 2)^2 - (x - 2)^3$	A1	Fully correct, must have "$y =$ ". **ISW** expansions

		iii	Stretch	B1	**Must** use the word "stretch"
		iii	Scale factor one-half parallel to the y-axis	B1	**Must** have "factor" or "scale factor". For "parallel to the y axis" allow "vertically", "in the y direction".
			Total	7	
8		a	Coordinates of vertices seen at (0, 0), (−2, −2) and (2, 1)	B1(AO1.1) [1]	Vertices must be clearly shown
		b	Coordinates of vertices seen at (2, 1), (3, 2) and (1, −1)	M1(AO1.1) A1(AO1.1) [2]	Clear attempt to translate graph to the right and to translate it vertically upwards All vertices correct
			Total	3	
9		a	Sketch of $y = \frac{3}{x^2}$	B1(AO1.1)	Must be in both quadrants, with axes intended as asymptotes

		Sketch of $y = x^2 - 2$ Intercepts of (0, -2), (√2, 0), (-√2, 0)	M1(AO1.1) A1(AO1.1) [3]	Positive quadratic, symmetrical in y-axis All 3 intercepts correct	Allow just eg √2 if marked on relevant axis
	b	DR $3 = x^4 - 2x^2$ $(x^2 - 3)(x^2 + 1) = 0$ $x^2 = 3$ $x = \pm\sqrt{3}$ points are (√3, 1) and (−√3, 1) $x^2 = -1$ has no solutions as $x^2 > 0$	M1(AO3.1a) M1(AO1.1a) M1(AO1.1a) A1(AO1.1) A1(AO2.2a) B1(AO2.3) [6]	Equate and remove fractions Attempt to solve disguised quadratic Attempt to find x from their roots Correct x values Both correct coordinates Justify no roots for $x^2 = -1$	Could use substitution At least one value of x Allow A1 for one correct (x, y) coordinate A0 if extra roots, or if decimals
		Total	9		

10		a	−4	B1(AO 1.1) [1]	
		b	x, $(x + 2)$, $(x − 1)$	B1(AO 1.1) [1]	
		c	$y = ax(x − 1)(x + 2)$ Subst (−1, −4) or from **(a)** $−4 = a(−1)(−2)(+1) \Rightarrow a = −2$	M1(AO 3.1a) M1(AO 1.1) A1f(AO 2.2a) [3]	ft their **(a)** and **(b)**
		d	$y = −2x(x − 1)(x + 2)$ $y = −2x^3 − 2x^2 + 4x$ or $b = −2$, $c = 4$, $d = 0$	B1ft (AO 1.1) [1]	ft their **(b)**
			Total	6	

11			B1(AO1.1) B1(AO1.1) B1(AO1.1) B1(AO1.1) [4]	$y = (x - 1)^2$ drawn correctly $3y = 4x$ drawn correctly $y - x = 1$ drawn correctly Correct identification of region (dependent on previous B marks); condone identification via shading so long as there is no ambiguity about the intended region	x-axis must be a tangent to the curve Line must pass through the origin Positive gradient and y-intercept Note that both lines and curve must meet at the same point for this final mark to be awarded (ignore labelling on axes)
		Total	4		
12	a	$f(x) = (x - 3)(2x^2 - x - 1)$	M1 (AO 2.2a) A1	Attempt complete division by $(x - 3)$	Must be complete attempt Division – must be subtracting on each line (allow one error) Coefficient matching – valid attempt at all 3 coefficients Inspection – must give three correct terms on expansion Synthetic division – allow one error Could be seen in division Cannot be implied by $A = 2$ etc Must be as product of all 3 linear factors Correct answer gets full marks, but an incorrect factorisation such as $(x -$

			$f(x) = (x - 3)(2x + 1)(x - 1)$	(AO 1.1) A1 (AO 1.1) [3]	Obtain correct quotient — $3(x + \frac{1}{2})(x - 1)$ is M0 unless method is seen Obtain fully factorised f(*x*) Examiner's Comments Most candidates correctly found the quadratic quotient, with the most common methods being algebraic long division and the grid method, which tended to be equally successful. They could then factorise the quadratic quotient correctly. The question asks for f(*x*) to be given in fully factorised form, so candidates were expected to give their final answer as the product of three factors. A few candidates found the roots from their calculator and then attempted to work backwards but no correct solutions were seen as the factor was given as ($x + 0.5$) rather than the correct factorised form ($2x + 1$) or $2(x + 0.5)$.
		b	Sketch of positive cubic (–0.5, 0), (1, 0), (3, 0), (0, 3)	B1 (AO 1.2) B1 (AO 2.2a) [2]	Three roots and two stationary points — Ignore any intercepts for this mark All intercepts correctly indicated — ft their three factors Could be given as coordinates, or just values marked on relevant axes BOD if coordinates transposed as long as marked on correct axis Examiner's Comments Most candidates were able to provide a sketch of a positive cubic, including the correct behaviour at the extremities. Some candidates marked the points on the axes first resulting in a distorted graph as they then tried to fit the cubic through the points. Candidates were asked for the coordinates of any points of intersection, and most did so although a few omitted the coordinate on the *y*-axis.

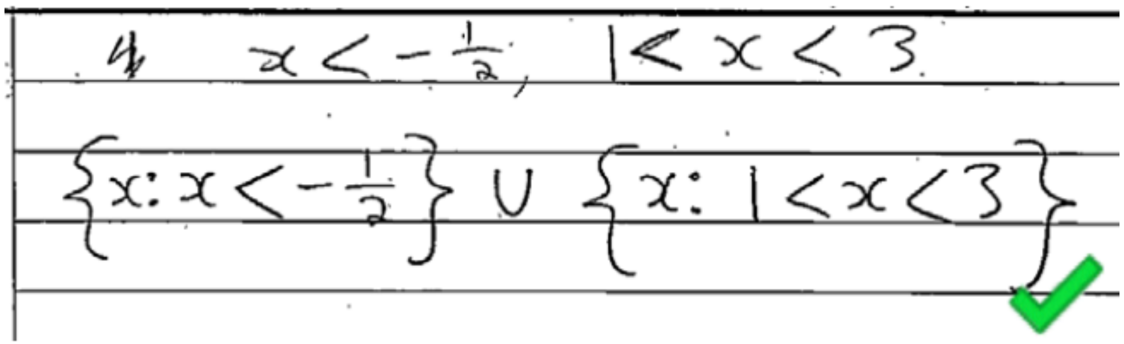
					Whilst this question asked for the coordinates, it is good practice to always provide them on a sketch graph even if not explicitly requested. **Key** Guidance to offer for future teaching and learning practice
		c	$\{x : x < -0.5\} \cup \{x : 1 < x < 3\}$	M1 (AO 2.2a) A1ft (AO 2.5)	Identify one set of values: ft their cubic roots in **(b)**, even if not 3 real, distinct, roots Allow notation using just inequalities Allow interval notation eg $(-\infty, -0.5)$ and/or $(1, 3)$ If both sets of values given then ignore linking sign for this mark Fully correct solution in set notation: ft their cubic roots in **(b)** , as long as 3 real, distinct, roots Each set should have the correct structure ie $\{x : \quad\}$ with the sets linked by $\cup$ Allow equivs eg $\{x : x < -0.5\} \cup \{x : x > 1\} \cap \{x : x < 3\}$ eg $(-\infty, -0.5) \cup (1, 3)$

				[2]	Do not accept $(x < -0.5) \cup (1 < x < 3)$

Examiner's Comments

Set notation is new to this specification and some candidates were clearly familiar with the topic whereas others were not able to use the notation correctly, achieving only partial credit.

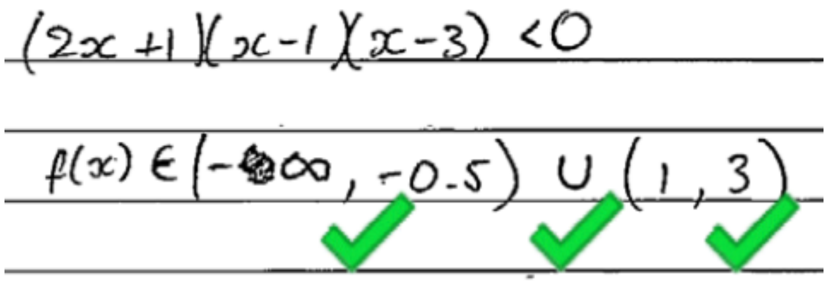
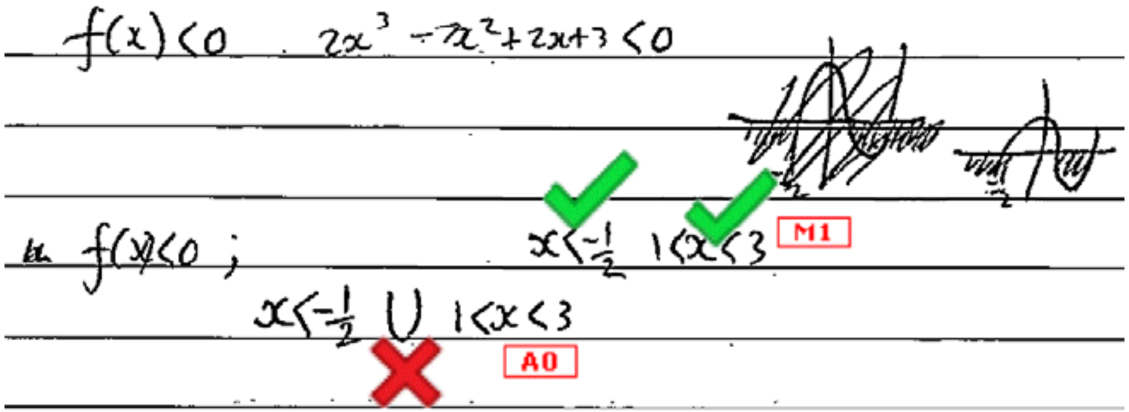
Exemplar 3

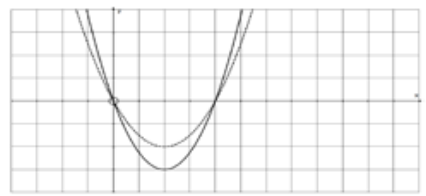
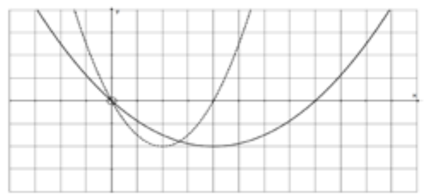

4 $x < -\frac{1}{2}, \quad 1 < x < 3$

$\{x : x < -\frac{1}{2}\} \cup \{x : 1 < x < 3\}$

This response gives a fully correct solution, using correct set notation, so gains full credit.

Exemplar 4

					 This response demonstrates an alternative, but equally, valid use of set notation and also gains full credit. Exemplar 5  This response gains one mark for identifying at least one correct set of values using inequalities. The use of ∪ shows some familiarity with set notation, but the structure is not fully correct so they do not get the second mark.
		d	$y = 2(2x)^3 - 7(2x)^2 + 2(2x) + 3$ $= 16x^3 - 28x^2 + 4x + 3$ OR	M1 (AO 1.2) A1	Attempt f(2x) or f(0.5x) Obtain correct equation Condone lack of brackets as long as implied by later work M0 if each term just multiplied or divided by 2 Must have $y = \ldots$ Condone f(2x) = …, or f(x) = …

			$y = (2x - 3)(4x + 1)(2x - 1)$	(AO 1.1) [2]	Accept unsimplified equiv ISW an incorrect attempt to expand Examiner's Comments Most candidates were able to replace *x* with 2*x* to obtain a correct equation although a few gave it as an expression, omitting the '*y* =' at the start. The best solutions made effective use of brackets to show *x* being replaced with 2*x*, and then expanded them. Other candidates simply wrote down an equation; if this was wrong then there was no evidence to justify that they had been attempting the correct method, but with an error on substitution, as opposed to attempting to double each term.
			Total	9	
13		a	Tails up parabola vertex (2, –3) (± 2mm) cutting *x*-axis at (0, 0) and (4, 0) (± 2mm)	B1 (AO 1.1) B1 (AO 1.1) [2]	 (scale: 1 cm = 1 unit)
		b	Tails up parabola vertex (4, –2) (± 2mm) cutting *x*-axis at (0, 0) and (8, 0) (± 2mm)	B1 (AO 1.1) B1 (AO 1.1) [2]	 (scale: 1 cm = 1 unit)
			Total	4	

14		a	Curve touching x-axis once and cutting it once Roughly correct "positive" cubic shape	B1 (AO 1.2) B1 (AO 1.2) [2]	with no other implied meeting points with x-axis dep on 1st B1
		b	$(x-2)^2(x-3)$ $(x-2)(x-3)^2$ $x^3 - 7x^2 + 16x - 12$ & $x^3 - 8x^2 + 21x - 18$	M1 (AO 3.1a) M1 (AO 1.1) A1 (AO 1.1) [3]	Both
			Total	5	