SKILLS CHECK

QUESTION 1

Find the equation of the line parallel to the line 2y + 4x = 7 passing through point (1,5). Give your answer in the form ax + by = c

QUESTION 2

Solve $3cos3\theta - 1 = 0$ for $0° < \theta < 180°$

QUESTION 3

Use the binomial expansion to write down the first four terms of $(1 + 2x)^7$

QUESTION 4

Find the gradient of the tangent to the curve $y = x^3 - 2x^2 + 2x - 1$ at the point (-1,-6)

QUESTION 5

The graph of $y = x^3$ is translated by vector $\begin{bmatrix} -1 \\ 2 \end{bmatrix}$ find the equation of the resulting graph in the form $y = x^3 + ax^2 + bx + c$

WEEK 1

SKILLS CHECK

QUESTION 1

Find the equation of the line parallel to the line 6y + 3x = -4 passing through point (-3,4). Give your answer in the form ax + by = c

QUESTION 2

Solve $2sin^2 2\theta - cos2\theta = 1$ for $0° < \theta < 180°$

QUESTION 3

Use the binomial expansion to write down the first four terms of $(1 - 4x)^{10}$

QUESTION 4

Find the coordinates of the stationary points of the curve $y = 2x^3 - 24x$

QUESTION 5

The graph of $y = x^2 - 2x$ is stretched by scale factor ½ parallel to the x-axis.
Find the equation of the resulting graph

SKILLS CHECK

QUESTION 1

Find the equation of the line through point (2,-3) which is perpendicular to the line passing through points (2, -3) and (4,5). Give your answer in the form ax + by = c

QUESTION 2

Solve $2sin^2 3\theta = 2 - cos3\theta$ for $0° < \theta < 180°$

QUESTION 3

Use the binomial expansion to write down the first three terms of $(2 - 3x)^{10}$

QUESTION 4

Find the gradient of the tangent to the curve
$y = \frac{1}{2}x^2 + \frac{1}{6}x^3 - \frac{1}{4}x$ at the point where x = $\frac{1}{2}$

QUESTION 5

The graph of $y = x^3 + 2x^2 - x + 3$ is reflected in the y-axis.
Find the equation of the resulting graph

WEEK 3

SKILLS CHECK

QUESTION 1

Find the equation of the line through point (6, 3) which is parallel to the line passing through points (-4, -1) and (-6, 9). Give your answer in the form ax + by = c

QUESTION 2

Solve $2sin^2 3\theta = 3cos3\theta$ for $0° < \theta < 180°$

QUESTION 3

Find the coefficient of the 4th term in the expansion of $(4 + \frac{x}{2})^9$

QUESTION 4

Find the gradient of the tangent to the curve
$y = \frac{3}{2}x^2 + \frac{5}{6}x^3 - \frac{5}{4}x$ at the point where x = -1

QUESTION 5

The point (-1,2) lies on the graph of y = f(x). State the coordinates of its image when the graph is transformed to y = 2f(x)

WEEK 4

SKILLS CHECK

QUESTION 1

Find the equation of the line perpendicular to the line 2y – x =5 passing through point (-2,4). Give your answer in the form ax + by = c

QUESTION 2

Solve $5cos^2 2\theta = 4 - 3sin^2 2\theta$ for $0° < \theta < 180°$

QUESTION 3

Find the coefficient of the 5th term in the expansion of $(3 - \frac{x}{3})^{10}$

QUESTION 4

Find the x-coordinates of the stationary points of the curve
$y = 5x^3 - 2x^2 - 3x + 10$

QUESTION 5

The point (6,-10) lies on the graph of y = f(x). State the coordinates of its image when the graph is transformed to y = f(2x)

SKILLS CHECK

QUESTION 1

Find the equation of the line perpendicular to the line 5y - 2x = 10 passing through point (-4,3). Give your answer in the form ax + by = c

QUESTION 2

Solve $tan^2 2\theta - 3tan2\theta + 2 = 0$ for $0° < \theta < 180°$

QUESTION 3

Find the coefficient of the 5th term in the expansion of $(2 - \frac{3x}{2})^8$

QUESTION 4

Find the equation of the tangent to the curve $y = 5 - 10x + x^3$ at the point when x = -1

QUESTION 5

The point (-1,4) lies on the graph of y = f(x). State the coordinates of its image when the graph is transformed to y = f(x-1) + 3

SKILLS CHECK

QUESTION 1

Find the equation of the line parallel to the line 4y + 3x = 5 passing through point (-4,4). Give your answer in the form ax + by = c

QUESTION 2

Solve $cos^2 3\theta - 2 = sin^2 3\theta + 3sin3\theta$ for $0° < \theta < 180°$

QUESTION 3

Find the coefficient of the 6th term in the expansion of $(\frac{1}{2} - 2x)^{12}$

QUESTION 4

Find the values of x for which the tangents to the curve $y = 3x^3 + 6x^2 - 2x + 5$ are parallel to the graph y - 3x = 2

QUESTION 5

The point (-5,-2) lies on the graph of y = f(x). State the coordinates of its image when the graph is transformed to y = f(x+5) + 2