Assessment
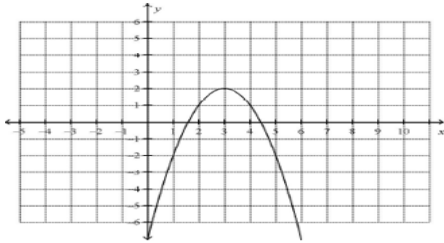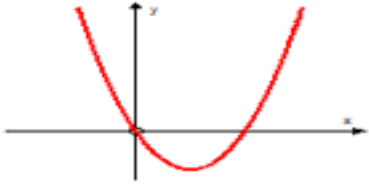
Mathematics: Lesson26

Which quadratic function does the graph represent?

A. $f(x) = x^2 + 6x - 7$

B. $f(x) = -x^2 + 6x + 7$

C. $f(x) = -x^2 + 6x - 7$

D. $f(x) = -x^2 - 6x - 7$

A function $y = ax^2 + bx + c$ is represented by the following graph. Which of the following is true?

A. $c > 0$

B. $c < 0$

C. c is an imaginary number

D. $c = 0$

What are the *x*-intercepts of $y = -(x+8)(x-7)$?

A. $x = -8 \ and \ x = 7$

B. $x = 8 \ and \ x = -7$

C. $x = -8 \ and \ x = -7$

D. $x = -\dfrac{1}{2}$

Find the vertex of $y = 3(x-1)^2 + 2$

A. $(-1, -2)$

B. $(-1, 2)$

C. $(1, 2)$

D. $(3, 2)$

Find the vertex of the graph of the quadratic function $y = 6x^2 - 96x + 394$

A. $(10, 0)$

B. $(10, 8)$

C. $(8, 0)$

D. $(8, 10)$

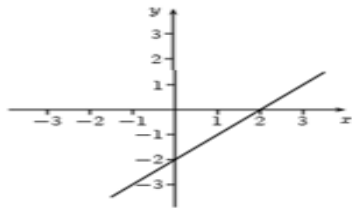Find the equation of the quadratic function that has given the vertex and given point on its graph.

Vertex $(-4, -4)$ point : $(-3, -5)$

A. $P(x) = x^2 + 8x - 4$

B. $P(x) = 3x^2 + 8x + 20$
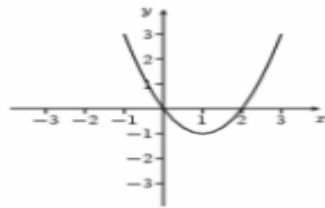
C. $P(x) = -x^2 + 4x - 4$

D. $P(x) = -x^2 - 8x - 20$

Which of the following graphs represent $y = x^2 - 2x$

A.

B.

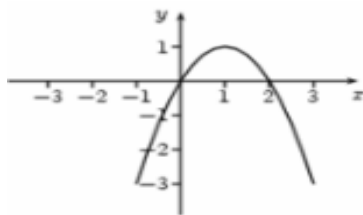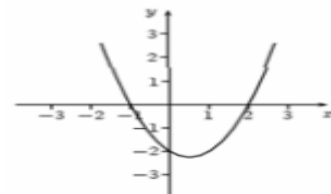

C.

D.

Identify the vertex and the y-intercept of the graph of the function
$y = 3(x+2)^2 - 5$

A. $\text{vertex} : (2,5); y-\text{intercept} : 12$

B. $\text{vertex} : (2,-5); y-\text{intercept} : 7$

C. $\text{vertex} : (-2,-5); y-\text{intercept} : 7$

D. $\text{vertex} : (-2,5); y-\text{intercept} : -1$

Assessment

Mathematics: Lesson27

Synthetic division can always be used when dividing Polynomials.

A. True

B. False

Use synthetic division to divide the polynomials.

$$\frac{x^2 + 2x - 63}{x + 9}$$

A. $x - 7$

B. $x^2 - 7$

C. $x + 7$

D. $x^2 + 3x - 54$

Remainder Theorem can only be used to find the remainder only.
It cannot be used to find the quotient of the division of polynomials.

A. True

B. False

Question 4

Divide using synthetic division and write a summary statement in fraction form.

$$\frac{2x^3 + 3x^2 + 4x - 10}{x+1}$$

A. $2x^2 + 5x + 9 + \dfrac{-1}{x+1}$

B. $2x^2 + 5x + 9 + \dfrac{1}{x+1}$

C. $2x^2 + x + 3 + \dfrac{13}{x+1}$

D. $2x^2 + x + 3 + \dfrac{-13}{x+1}$

Use synthetic division to divide the polynomials.

$$\frac{x^3 + 12x^2 + 20x - 96}{x - 2}$$

A. $x^2 + 14x + 8 - \dfrac{4}{x - 2}$

B. $x^3 + 8 - \dfrac{4x}{x - 2}$

C. $x^2 + 14x + 48$

D. $x^2 + 8x + 48$

Use synthetic division to divide the polynomials.

$$\frac{3x^2 + 16x - 12}{x + 6}$$

A. $3x - 2$

B. $3x - 2 + \dfrac{8}{x - 2}$

C. $x - 2$

D. $3x + 2$

Use the remainder theorem and synthetic division to find f(k)

$k = -3; \ f(x) = 3x^3 - 4x^2 - 4x + 2$

A. -15

B. -103

C. -59

D. -127

Find the remainder when $x^3 - 2x^2 - x - 2$ is divided by $x + 1$

A. -4

B. 3

C. 2

D. 6

Use the Factor Theorem to determine whether $x-k$ is a factor of $f(x)$.

$$f(x) = x^3 + 6x^2 - 14x + 16; \ x + 8$$

A. Yes

B. No

(*x* + 2) Is a factor of $x^3 + 8x^2 + 17x + 10$

A. True

B. False