PRINTABLE VERSION

Quiz 13

Question 1

Write the function

$$f(x) = x^2 + 14x + 13$$

in the standard form

$$f(x) = a(x-h)^2 + k$$

a) $f(x) = (x+7)^2 - 62$

b) $f(x) = (x+7)^2 - 36$

c) $f(x) = (x-7)^2 - 49$

d) $f(x) = (x-7)^2 + 62$

e) $f(x) = (x+7)^2 + 36$

Question 2

Write the function

$$f(x) = -2x^2 - 8x + 15$$

in the standard form

$$f(x) = a(x-h)^2 + k$$

a) $f(x) = -2(x+2)^2 + 23$

b) $f(x) = -2(x+2)^2 + 8$

c) $f(x) = -2(x-2)^2 - 23$

d) $f(x) = -2(x-2)^2 - 7$

e) $f(x) = -2(x-2)^2 + 11$

Question 3

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Find the maximum or minimum value of the function

$$f(x) = -x^2 + 24x - 145$$

a) The minimum value is 1.

b) The minimum value is -1.

c) The maximum value is 1.

d) The maximum value is -12.

e) The maximum value is -1.

Question 4

Find the maximum or minimum value of the function

$$f(x) = (x+6)^2 + 1$$

a) The minimum value is 6.

b) The minimum value is 1.

c) The maximum value is 1.

d) The maximum value is -1.

e) The minimum value is -1.

Question 5

Find the vertex of the graph of

$$f(x) = x^2 - 8x + 32$$

a) $(0, 4)$

b) $(-4, 16)$

c) $(4, -16)$

d) $(-4, -16)$

e) $(4, 16)$

Question 6

Loading [MathJax]/extensions/MathZoom.js rtex is $(9, 1)$ and y-intercept is -2.

a) $f(x) = -\frac{1}{81}(x-9)^2 + 1$

b) $f(x) = -\frac{1}{27}(x-9)^2 + 1$

c) $f(x) = -\frac{1}{81}(x+9)^2 + 1$

d) $f(x) = -\frac{1}{27}(x-9)^2 - 1$

e) $f(x) = -\frac{1}{27}(x+9)^2 + 1$

Question 7

Find the quadratic function whose vertex is $(9, -6)$ and x-intercept is 7.

a) $f(x) = -\frac{3}{2}(x+9)^2 - 6$

b) $f(x) = \frac{3}{2}(x+9)^2 - 6$

c) $f(x) = -\frac{3}{2}(x-9)^2 - 6$

d) $f(x) = \frac{3}{2}(x-9)^2 + 6$

e) $f(x) = \frac{3}{2}(x-9)^2 - 6$

Question 8

Find the quadratic function f whose x-intercepts are -6 and -1, and its and y-intercept is 7.

a) $f(x) = \frac{7}{6}x^2 - \frac{49}{6}x - 7$

b) $f(x) = \frac{7}{6}x^2 - \frac{49}{6}x + 7$

c) $f(x) = \frac{7}{6}x^2 + \frac{35}{6}x + 7$

d) $f(x) = \frac{7}{6}x^2 + \frac{49}{6}x - 7$

e) $f(x) = \frac{7}{6}x^2 - \frac{49}{6}x$

Question 9

Find the range of f

$$f(x) = -3(x+4)^2 - 6$$

a) $(-\infty, -6)$

b) $(-\infty, -6]$

c) $(-\infty, \infty)$

d) $[-6, \infty)$

e) $(-\infty, -4]$

Question 10

A rocket is fired directly upwards with a velocity of 128 ft/sec. The equation for its height, H, as a function of time, t, is given by the function

$$H(t) = -16t^2 + 128t$$

Find the time at which the rocket reaches its maximum height, and its maximum height.

a) time = 8 sec, max height = 512 ft

b) time = 4 sec, max height = 1024 ft

c) time = 2 sec, max height = 512 ft

d) time = 128 sec, max height = 256 ft

e) time = 4 sec, max height = 256 ft