Review Test 1 Q3

Factor completely.

1) $3x^2 + 18x + 15$

2) $x^2 - 17x + 72$

3) $16x^2 - 25$

4) $35x^3 + 7x^2 - 5x - 1$

5) $12x^2 + 16x$

6) $3x^2 + 20x - 7$

7) $4x^2 - 8x - 5$

8) $4x^2 - 10x$

9) $25x^2 - 40x^2 + 15x - 24$

10) $16x^2 + 8x + 1$

Solve the quadratic by factoring.

11) $y = x^2 - 2x - 24$

12) $y = 6x^2 + 17x + 5$

13) $y = x^2 + 12x + 35$

14) $y = 2x^2 + 6x$

15) $y = 2x^2 + 7x - 15$

Find the zeros of the quadratic.

16) $y = 4x(x - 2)$

17) $y = (2x + 5)(x - 6)$

18) $y = (x + 3)(4x - 3)$

19) $y = -3x(2x - 1)$

Find the y-intercepts of the quadratic.

20) $y = (x - 7)(x + 8)$

21) $y = -(x - 2)(2x + 3)$

22) $y = 3x(x + 7)$

23) $y = 2(3x - 5)(x + 4)$

24) $y = -5x(x - 2)$

Find the vertex of the quadratic given the roots/x-ints/zeros.

25) $y = (x - 5)(x + 7)$ roots: $(5, 0)(-7, 0)$

26) $y = (2x + 1)(x - 2)$ zeros: $(-0.5, 0)(2, 0)$

27) $y = (x - 4)^2$ x-ints: $(4, 0)(4, 0)$

28) $y = 2x(x + 8)$ roots: $(0, 0)(-8, 0)$

29) $y = (x + 3)(x - 3)$ zeros: $(-3, 0)(3, 0)$

Find the key features (x-ints, y-int, vertex, axis of symmetry, min or max) of the quadratic and graph.

30) $y = x(x + 2)$

31) $y = (x + 4)(x - 2)$

32) $y = x^2 - 1$

33) $y = x^2 - 6x + 8$

34) $y = 2x^2 - 7x + 3$