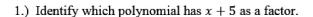
Quadratic Equations Review

A. Multiple Choice



b.)
$$20x^2 + 3x - 2$$

c.)
$$x^2 - 25y^2$$

a.)
$$x^2 + 3x - 54$$
 b.) $20x^2 + 3x - 2$ c.) $x^2 - 25y^2$ d.) $3x^2 + 3x - 60$

2.) Identify the value of the discriminant of $4x^2 - 12x + 9 = 0$

b.)
$$\frac{3}{2}$$



3.) Identify which equation has exactly one real root.

(a.) $x^2 + 9 = 6x$

b.)
$$4x^2 - 8x + 5 = 0$$

c.) $3x^2 - 10x + 5 = 0$

d.)
$$8x^2 - x + 4 = 0$$

4.) Consider the equation $x^2 - 6x + k = 0$. Identify the value(s) of k for which $x^2 - 6x + k = 0$ is this a perfect square trinomial.

a.) 0

 $b.) \pm 3$

d.) 6

5.) The roots, to the nearest hundredth, of $-\frac{1}{2}x^2 + x + \frac{7}{2} = 0$ are:

a.) 1.83 and 3.83 (b.))-1.83 and 3.83 c.) 1.83 and -3.83

d.) 1.83 and -3.83

Part B: Short Answer

1.) State how many real roots a quadratic equation has if the discriminant is -19.

2.) Write a quadratic equation which has roots -2 and 3.

3.) Solve: $(x+1)^2 = 3$ $\times = -1 \pm \sqrt{3}$

4.) Determine the discriminant of $x^2 - 2x = 0$

5.) Factor: $x^2 - 9$ (x - 3) (x + 3)

Part C: Long Answer

1.) Factor each polynomial expression.

a.)
$$3x^2 + 28x + 9$$

$$(3\times 1)(X+9)$$

b.)
$$(4x-2)^2 - (2+4x)^2 - 32$$

Factor each polynomial expression.
a.)
$$3x^2 + 28x + 9$$
 (3×1) ($X + 9$)
b.) $(4x - 2)^2 - (2 + 4x)^2 - 3 \times \times$
c.) $2(5x - 3)^2 + 5(5x - 3) - 3$
 $5 \times ((\circ X - 7))$

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2.) Solve, by factoring.

$$4x^2 - 2x - 12 = 0$$
 $\times = \frac{3}{2}$ $\times = 2$

3.) Solve by completing the square. $x^2 + 10x - 21 = 0$ $\times = -5 \pm \sqrt{46}$

4.) Solve, using the quadratic formula.
a.)
$$5x^2 - 7x - 1 = 0$$
 $\times = -2 \pm 3$ (a)

5.) Solve.

$$(x-2)(x+3) = 24$$
 \times = -6 \times = 5
6.) Determine the value of k such that the equation: $2x^2 + 5x + k = 0$ has one real root.

7.) Two numbers have a sum of 9 and a product of 20. Determine the numbers. 8.) The length of an outdoor lacrosse field is 10 m less than twice its width. The area of

the field is 6600 m². Determine the dimensions of this field. 60m × 110m

Extra Practice: Review pg. 198 Practice Test pg. 201