Aim: How can we solve more difficult Quadratic Equations that are not in standard form?

Do Now:

1) **Which equation is in standard form?**

      a. $8x^2-7x+1 = 0$

      b. $8x^2 = 7x +1$

      c. $(x-1)(2x+3) = 1$

2) **Find the solutions by factoring**

      a. $7k^2+9k = 0$

      b. $m^2-9m+8 = 0$

I-   Standard Form Quadratic Equations

1) $Y = ax^2 + bx + c$

2) Geometric Interpretation of a quadratic equation

      a. How does the solution look like in a graph?

      b. How does the equation help me predict the shape of the graph?

II – Non-Standard Form Quadratic Equations

1) $(x-1) (2x+3) = 1$ - how do you find the solution? Let's use the calculator

2) $7v^2 – 42 = –35v$ let's use the calculator and factoring to solve

III- Exercises

1) $x^2 = 7x + 18$
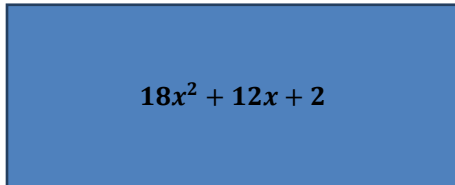
2) $p^2-5p = 14$

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3) $-31x = 20 - 7x^2$

4) $7x^2 - 45x - 28 = 0$

5) The area of the rectangle below is represented by the expression $18x^2 + 12x + 2$ square units. Write two expressions to represent the dimensions, if the length is known to be twice the width.

$$18x^2 + 12x + 2$$

Homework 1

1 Keith determines the zeros of the function $f(x)$ to be -6 and 5. What could be Keith's function?
1) $f(x) = (x+5)(x+6)$
2) $f(x) = (x+5)(x-6)$
3) $f(x) = (x-5)(x+6)$
4) $f(x) = (x-5)(x-6)$

2 What is the solution set of the equation $(x-2)(x-a) = 0$?
1) -2 and a
2) -2 and -a
3) 2 and a
4) 2 and -a

3 Which equation has the same solutions as $2x^2 + x - 3 = 0$
1) $(2x-1)(x+3) = 0$
2) $(2x+1)(x-3) = 0$
3) $(2x-3)(x+1) = 0$
4) $(2x+3)(x-1) = 0$

4 The zeros of the function $f(x) = 2x^2 - 4x - 6$ are
1) 3 and -1
2) 3 and 1
3) -3 and 1
4) -3 and -1

5 The zeros of the function $f(x) = 3x^2 - 3x - 6$ are
1) -1 and -2
2) 1 and -2
3) 1 and 2
4) -1 and 2

6 Solve $8m^2 + 20m = 12$ for m by factoring.

7 In the equation $x^2 + 10x + 24 = (x+a)(x+b)$, b is an integer. Find algebraically *all* possible values of b.

8 The function $r(x)$ is defined by the expression $x^2 + 3x - 18$. Use factoring to determine the zeros of $r(x)$. Explain what the zeros represent on the graph of $r(x)$.

9 Janice is asked to solve $0 = 64x^2 + 16x - 3$. She begins the problem by writing the following steps:

Line 1 $0 = 64x^2 + 16x - 3$

Line 2 $0 = B^2 + 2B - 3$

Line 3 $0 = (B+3)(B-1)$

Use Janice's procedure to solve the equation for x. Explain the method Janice used to solve the quadratic equation.

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Answers to HW # 1

 Please select the correct answer number for each question. There are more

answers than questions. Answers may be repeated.

1) (1)

2) (2)

3) (3)

4) (4)

5) -6, 3

6) 8X

7) -6, 4

8) ½, -3

9) 6, 4

10) -6, -3

11) 6X