Objective: SWBAT review for their test!

Kickoff

Try question 15 on your homework sheet from yesterday!

Objective: Review for test!
　Kickoff → Take out your HW
　and check answers!

1) $x = -10, 10$　　2) $x = 0, 8$
3) $x = \frac{2}{3}, -3$　　4) $x = -3, 7$
5) $x = 1, -5/2$　　6) $x = 3, -3$
7) $x = 2, -4$　　8) $x = 3, \frac{5}{2}$
9) $\dfrac{1 \pm 2\sqrt{3}}{3}$　　10) $\dfrac{7 \pm \sqrt{17}}{16}$

11) $x = 20, 2$　　12) $4 \pm 2\sqrt{3}$
13) $6 \pm \sqrt{13}$　　14) $x = 5 \pm \sqrt{7}$

15) $(2, -2)$　　16) $(10, 48)$
　　$(15, 89)$　　　$(2, 16)$

Solve each system.

15) Solve by factoring: $\quad y = x^2 - 10x + 14$
$\qquad\qquad\qquad\qquad y = 7x - 16$

$x^2 - 10x + 14 = 7x - 16$
$\quad -7x + 16 \quad -7x + 16$

$x^2 - 17x + 30 = 0 \quad MP\ 30x^2$

$(x^2 - 2x)(-15x + 30) =$　　$-2 \quad -15$

$x(x - 2) - 15(x - 2) = 0$
$(x - 15)(x - 2) = 0$
$x - 15 = 0 \mid x - 2 = 0$
$\quad +15 +15 \mid \quad +2 +2$
$\quad x = 15 \mid \quad x = 2$

$\boxed{(15, 89) \ (2, -2)}$

$y = 7x - 16$
$x = 15 \quad y = 7(15) - 16$
$\qquad\qquad y = 89$
$x = 2 \quad y = 7(2) - 16$
$\qquad\quad y = -2$

---

16) Solve by completing the square: $\quad y = x^2 - 8x + 28$
$\qquad\qquad\qquad\qquad\qquad\qquad y - 8 = 4x$

Test 7 Review- Past Units

Steps to Solving Equations
1) Simplify both sides of the equal sign.
2) Find inverse operation (addition/subtraction first)
3) Perform the inverse operation.
4) Draw a line and cross out what you can.
5) Bring down everything else.
6) Repeat!

1)　　$2(-3a + 5) + 6 = -4a - 10$

$-6a (+10 + 6) = -4a - 10$

$-6a + 16 = -4a - 10$
$+4a \qquad\qquad +4a$
$-2a + 16 = -10$
$\qquad -16 \quad -16$
$\dfrac{-2a}{-2} = \dfrac{-26}{-2}$

$a = 13$

---

2) $2(4x - 3) - 8 = 4 + 2x$　　　　　3) $5(2x + 6) = -4(-5 - 2x) + 3x$

4) $2 \leq 5x - (x + 4)$

$2 \leq 5x - x - 4$

$2 \leq 4x - 4$

$+4 \qquad +4$

$\dfrac{6}{4} \leq \dfrac{4x}{4}$

$\dfrac{3}{2} \leq x \quad$ OR $\quad x \geq \dfrac{3}{2}$

Solving Inequalities
Solve inequalities the same you solve equations.

**EXCEPT: When you DIVIDE by a negative, you MUST flip the inequality sign!

Interval Notation
Shaded circle: "[" or "]"
Open Circle: "(" or ")"
Infinity: "(" or ")"

graph!

$1 \qquad 2|3 \qquad 2$

1.5

$1.5 \leq 2$

---

5) $2(1 - 4r) \leq -2(r + 3) - 4$

$2 - 8r \leq -2r - 6 - 4$

$2 - 8r \leq -2r - 10$

$+2r \qquad +2r$

$\dfrac{2 - 6r \leq -10}{-2}$

$\dfrac{-6r}{-6} \leq \dfrac{-12}{-6}$

$r \geq 2$

6) $20 - 2p > -2(p + 2) + 4p$

$20 - 2p > -2p - 4 + 4p$

$20 - 2p > 2p - 4$

$+2p \qquad +2p$

$20 > 4p - 4$

$+4 \qquad +4$

$\dfrac{24}{4} > \dfrac{4p}{4}$

$6 > p$

OR

$p < 6$

$5 \qquad 6 \qquad 7$

Solving Absolute Value Inequalities
To solve an absolute value equation,
you need to create 2 equations:
a Positive Equation and a Negative Equation.

8) $|6m - 2| = 0$

7) $|m + 3| = 2$

$m + 3 = 2$
$-3 \quad -3$
$m = -1$

$-(m + 3) = 2$
$-m - 3 = 2$
$+3 +3$
$-1m = 5$
$-1 \quad -1$
$m = -5$

9) $|7x - 2| = 44$

$7x - 2 = 44$
$+2 +2$
$\dfrac{7x}{7} = \dfrac{46}{7}$
$x = \dfrac{46}{7}$

$-(7x - 2) = 44$
$-7x + 2 = 44$
$-2 \quad -2$
$\dfrac{-7x}{-7} = \dfrac{-42}{-7}$
$x = -6$

---

10) $\sqrt{2x - 1} + 5 = 2$

$-5 \quad -5$

$(\sqrt{2x - 1})^2 = (-3)^2$

$2x - 1 = 9$
$+1 \quad +1$

$\dfrac{2x}{2} = \dfrac{10}{2}$

$x = 5$

Solving Radical Equations
1) Isolate the radical
2) Square both sides of the equations.
   this will get ride of the radical sign
3) Solve
4) Check for extraneous roots

---

11) $\sqrt{1 + y} = 3$

12) $8 + \sqrt{2x - 1} = 15$

$-8 \qquad -8$

$(\sqrt{2x - 1})^2 = (7)^2$

$2x - 1 = 49$
$+1 \quad +1$

$\dfrac{2x}{2} = \dfrac{50}{2}$

$x = 25$