Spiral Review:

Simplify.

1. $\frac{4}{(x^2-9)} + \frac{7}{x+3}$

LCD: $(x+3)(x-3)$

$\frac{4}{(x+3)(x-3)} + \frac{7(x-3)}{(x+3)(x-3)} \quad \frac{4+7x-21}{(x+3)(x-3)}$

$\frac{7x-17}{(x+3)(x-3)}$

2. $\frac{9}{x} + \frac{2x}{x+1} - \frac{5}{x(x+1)}$

LCD: $x(x+1)$

$\frac{9(x+1)}{x(x+1)} + \frac{2x \cdot x}{(x+1)x} - \frac{5}{x(x+1)}$

$\frac{9x+9+2x^2-5}{x(x+1)}$

$\frac{2x^2+9x+4}{x(x+1)}$

LCD: $(x+1)(x-1)$

$\frac{(2x+1)(x+4)}{x(x+1)}$

Solve.

3. $x^2+3x+2=0$

$(x+2)(x+1)=0$

$x+2=0 \quad x+1=0$

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

4. $\frac{3}{x-1} + \frac{4}{x+1} = \frac{9}{x^2-1}$

$(x+1)(x-1)\left(\frac{3}{x-1} + \frac{4}{x+1} = \frac{9}{(x+1)(x-1)}\right)$

$3(x+1) + 4(x-1) = 9$

$3x+3+4x-4=9$

$7x-1=9$

$+1 \quad +1$

$7x=10$

$x=\frac{10}{7}$

Review: Solving Inequalities

DO NOT FORGET TO FLIP INEQUALITY SIGN WHEN…

multiplying or dividing by a (-)

When solving absolute value inequalities, set up…

positive and negative case

Solve the inequality and sketch on a real number line.

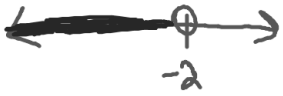
1. $2x > 3$

$x > 3/2$ or $x > 1.5$

2. $2x + 7 < 3$

$2x < -4$

$x < -2$



3. $-2 < 3x + 1 < 10$

$-3 < 3x < 9$

$-1 < x < 3$

4. $0 \le 2(x + 4) < 20$

$0 \le 2x + 8 < 20$

$-8 \le 2x < 12$

$-4 \le x < 6$

5. $0 \le \frac{x+3}{2} < 5$

$0 \le x + 3 < 10$

$-3 \le x < 7$

6. $|x - 20| \le 4$

$-4 \le x - 20 \le 4$

$16 \le x \le 24$

7. $\left|\frac{x-3}{2}\right| \ge 5$

$\frac{x-3}{2} \ge 5$ or $\frac{x-3}{2} \le -5$

$x - 3 \ge 10$ or $x - 3 \le -10$

$x \ge 13$ or $x \le -7$

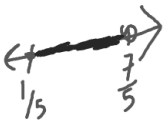
8. $3|4 - 5x| \le 9$

$|4 - 5x| \le 3$

$-3 \le 4 - 5x \le 3$

$-7 \le -5x \le -1$

$\frac{7}{5} > x \ge \frac{1}{5}$



Turn-in problems.
Solve.

1. $-5 < 2x + 4 \leq 10$

2. $-6 < \frac{x-4}{2} < 5$

3. $|4x| > 24$

4. $|x - 5| + 6 > 7$

Assignment:

wkst (9-17, 29-35 odds)