Algebra 2
Unit 3 WS7

Name:_____
Date:_____
Period:_____

Solve.

1. $\frac{4}{x+6} - \frac{2}{x+4} = \frac{5x+16}{x^2+10x+24}$

2. $\frac{18}{5x+10} + \frac{4}{5} = \frac{-6}{x+2}$

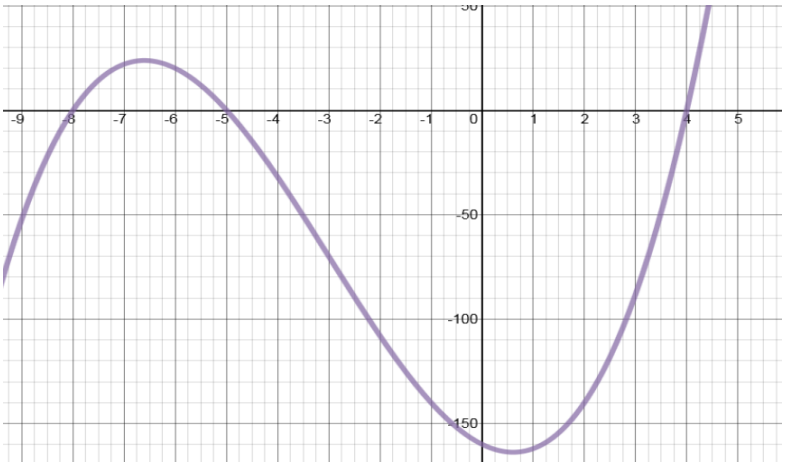
3. $\frac{3x+53}{x^2+6x-7} + \frac{4}{x+7} = \frac{x+3}{x-1}$

4. Marcus got a hit 5 out of 16 times in the first four games of the baseball season.
a. How many hits would Marcus have to get in a row to improve his batting average to 0.400?

b. How many hits will Marcus have to get in a row to improve his batting average to 0.600?

5. Andrew uses 2 hoses at his house fill his pool. Together, the 2 hoses can fill the pool in 1.5 hours. Unfortunately, he loaned one of his hoses to a friend for his slip and slide. Now he only has one hose to fill his pool and it takes 2.5 hours to get the job done. Did Andrew's friend take the better hose? Justify your answer.

6. Circle the equation that matches the graph. (Think about what we learned about polynomial graphs in Unit2)



a. $f(x) = -(x - 8)(x - 5)(x + 4)$

b. $f(x) = (x + 8)(x + 5)(x - 4)$

c. $f(x) = (x - 8)(x - 5)(x + 4)$

d. $f(x) = -(x + 8)(x + 5)(x - 4)$

7. Simplify
a) i^{24} b) i^{47} c) i^{77} d) $(2 - 3i)(10 - 6i)$