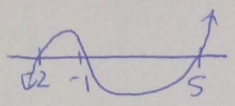
Use a graphing calculator!

Secondary 3 Math
HW 3-4 Polynomial Inequalities

Name Selected Answers
Period

Part 1: Determine the x-values that cause the polynomial to be zero ← Find the zeros!

1. $f(x) = (x + 2)(x + 1)(x - 5)$



$x = -2, -1, 5$

2. $f(x) = (x - 7)(3x + 1)(x + 4)$

3. $f(x) = (x + 7)(x + 4)(x - 6)^2$

4. $f(x) = (5x + 3)(x - 1)(x - 2)^3$

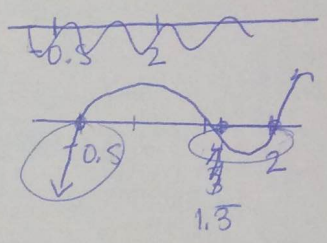
$x = 1, 2, -0.6$
or $x = 1, 2, -3/5$

Part 2: Solve the following inequalities. Write the answer in interval notation.

5. $(x + 1)(x - 3)^2 > 0$

6. $(2x + 1)(x - 2)(3x - 4) \leq 0$

Below w/ square



$(-\infty, -0.5] \cup [1.\overline{3}, 2]$

7. $(x + 1)(x^2 - 3x + 2) < 0$
$(x-2)(x-1)$

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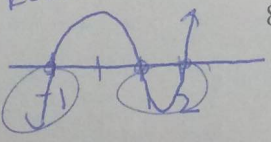

8. $(2x - 7)(x^2 - 4x + 4) > 0$

$(-\infty, -1) \cup (1, 2)$

9. $(x + 2)(2x - 1)(x - 3) \geq 0$

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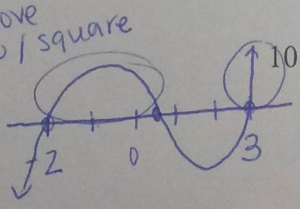

$[-2, 0.5] \cup [3, \infty)$

10. $(x + 1)(x^2 - 5x + 6) \leq 0$

For 11-12 you may use a graphing calculator.

11. $x^3 - x^2 - 2x \geq 0$

12. $2x^3 - 5x^2 + 3x \leq 0$

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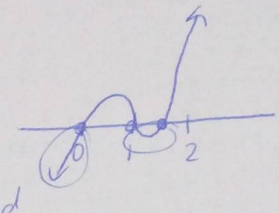

$(-\infty, 0) \cup (1, 2)$

Part 3: Given the following graphs what interval represents where $f(x) \leq 0$

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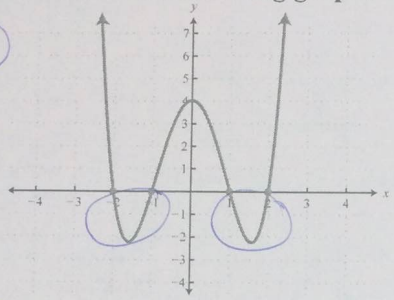
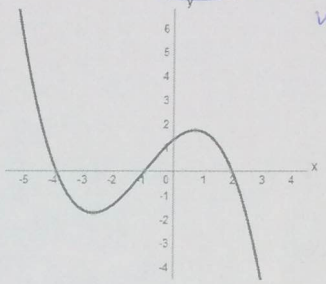
15.



16.



$[-2, -1] \cup [1, 2]$