

Resources for help:

- My office hours are 9:30-10:30 Monday through Friday in my office, 120 Sc.
- Our TAs, Diana and Charlotte, give Wednesday help sessions the same time and place as class.
- Alisha McCann answers calculator questions. Her office hours are Monday through Friday 10-11am in ST 178C (in the tutoring center by the fish tank). She's also usually in her office from 9-10am.
- The tutoring center in the Student Success Center in the Sharwin Smith Center has math tutors available
Monday-Thursday, 8am-8pm
Friday 8am-4pm

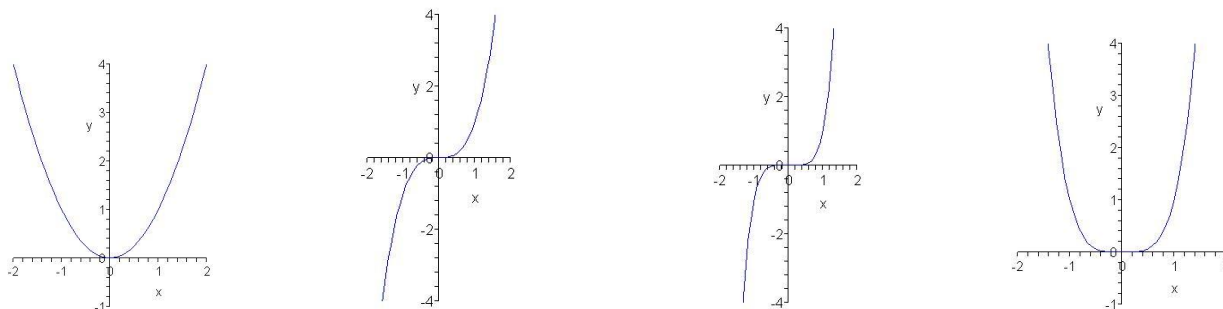
4.1

- A. Describe the difference in how you complete the square when solving a quadratic equation compared to when graphing a quadratic equation.
- B. How many x-intercepts can a quadratic equation have? Draw an example of each possibility.
- C. Fill in the blanks. $y=3(x+2)^2-5$ is the graph of $y=x^2$ shifted _____ by ____, ____ as wide/long in the _____ direction, and shifted _____ by _____.
- pg 306-307: 7,8,10-18,21,26,27,29,30,37,42,48,53,58 (careful of the scaling on 58), 61,64,70,79
- D. Graph $y=(x-1)(x-3)$
- E. Challenge Problem: (Challenge problems are **optional** and not worth points. They are just for fun!)

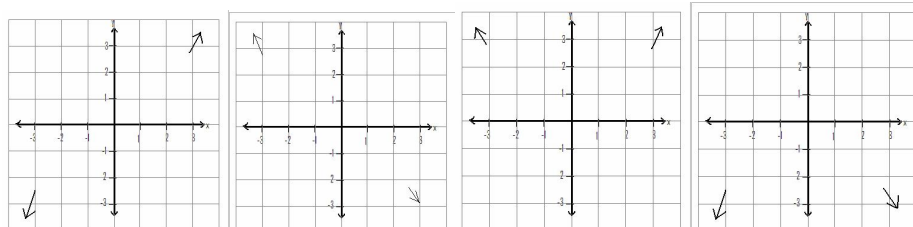
Derive that the x coordinate of the vertex is $x = \frac{-b}{2a}$.

4.2

- A. Match the functions $y = x^2$, $y = x^3$, $y = x^4$, $y = x^5$ to their graphs.



- B. Let r be a real number and f be a polynomial function. Give four statements equivalent to r is a root of f .
- C. Explain how to tell whether a graph crosses or just touches the x-axis at an x-intercept r .
- D. Match the functions $y = -(x-3)^2(2+x)$, $y = x^{22} - x - 3$, $y = x^3 - x^4$, $y = x^7 + 13x^4 + 3$ to their end behavior.



pg 327-330: 12,13,16,17,20,21,23,26,27,30,34,35,37,44,45,49,56-59,66,67,80,99

- E. Challenge Problem: (Challenge problems are **optional** and not worth points. They are just for fun!)
- Create and graph some of your own cool polynomial functions. Experiment and find patterns.