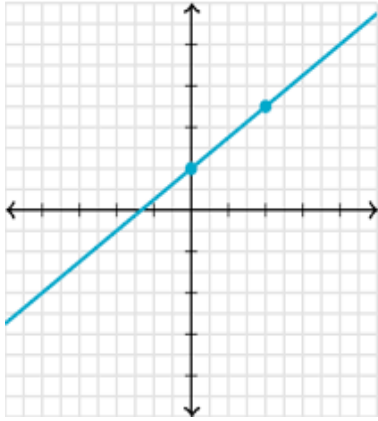


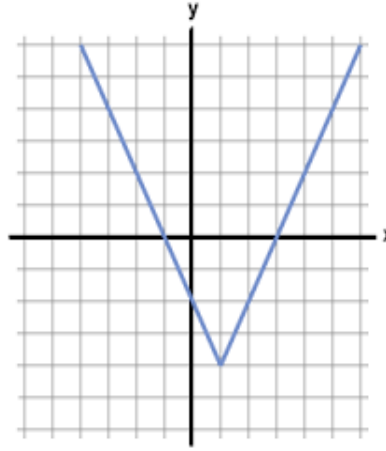
Graph each of the following parent functions and describe their attributes. For number 6, use the attributes to graph a function (*there may be more than one possible function*).

1. Parent Function:



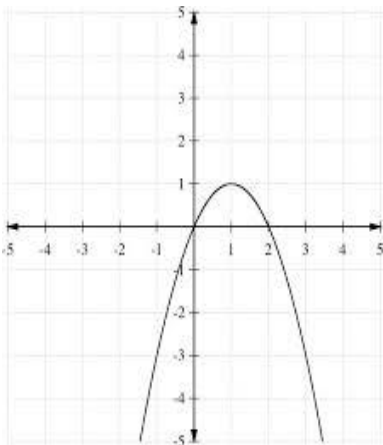
Domain:
 Range:
 Increasing:
 Decreasing:
 Left End Behavior:
 Right End Behavior:
 Maximum:
 Minimum:

2. Parent Function:



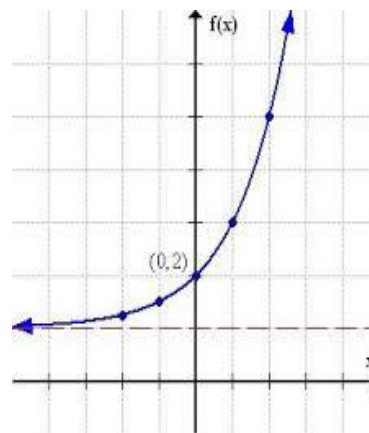
Domain:
 Range:
 Increasing:
 Decreasing:
 Left End Behavior:
 Right End Behavior:
 Maximum:
 Minimum:

3. Parent Function:



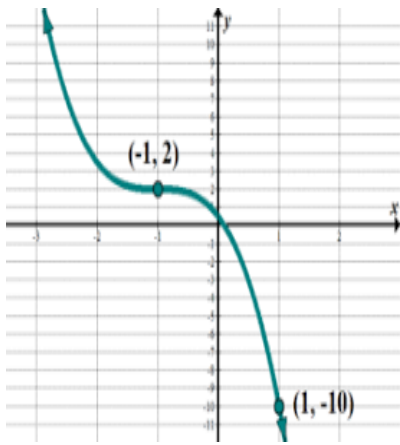
Domain:
 Range:
 Increasing:
 Decreasing:
 Left End Behavior:
 Right End Behavior:
 Maximum:
 Minimum:

4. Parent Function:



Domain:
 Range:
 Increasing:
 Decreasing:
 Left End Behavior:
 Right End Behavior:
 Maximum:
 Minimum:

5. Parent Function:

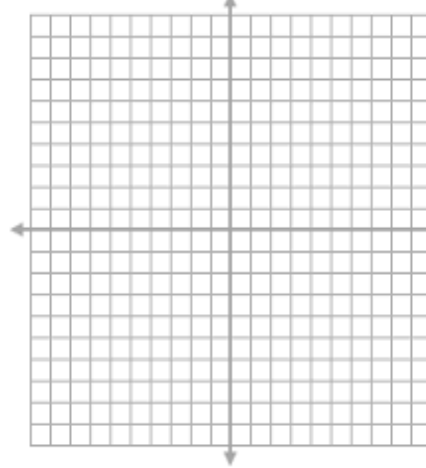


Domain:
 Range:
 Increasing:
 Decreasing:
 Left End Behavior:
 Right End Behavior:

Maximum:

Minimum:

6. Parent Function:



Domain: $(-\infty, \infty)$
 Range: $(-\infty, 3]$
 Increasing: $(-\infty, 2)$
 Decreasing: $(2, \infty)$
 Left End Behavior:
 $x \rightarrow -\infty, y \rightarrow -\infty$

Right End Behavior:
 $x \rightarrow \infty, y \rightarrow -\infty$

Maximum: $(-2, 3)$

Minimum: None

Factor the following completely.

7. $21n^3 + 28n^2 + 18n + 24$

8. $2p^3 - 8p^2 - 10p$

9. $2x^2 - 11x + 12$

10. $3n^2 - 28n - 20$

Solve each equation.

11. $a^2 - 28 = -3a$

12. $a^2 = 7a$

13. $2x - 5 = 4(x + 1)$

14. $x^2 + 4x + 3 = 0$