

NAME: _____ PERIOD: _____ DATE: _____

Homework Problem Set

For each equation below, decide which parent function most closely resembles the given equation. Use the answer bank below for your choices. You may use the same parent function name multiple times.

A. Linear	B. Quadratic	C. Absolute Value	D. Exponential	E. Square Root	F. Cubic
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1. $f(x) = 2x + 3$

A

2. $f(x) = 2x^2 + 3$

F

3. $f(x) = 2|x| + 3$

C

4. $f(x) = \sqrt{4x - 1}$

E

5. $f(x) = |4x - 1|$

C

6. $f(x) = 4^x - 1$

D

7. $f(x) = -|x| + 7$

C

8. $f(x) = -x^2 + 7$

B

9. $f(x) = -x + 7$

A

For each function, calculate $f(1)$, $f(0)$ and $f(-1)$.

10. $f(x) = \sqrt{4x - 1}$

$$f(1) = \sqrt{4(1) - 1}$$

$$f(1) = \sqrt{3}$$

$$f(0) = \sqrt{4(0) - 1}$$

$$= \sqrt{-1}$$

NOT POSSIBLE

$$f(-1) = \sqrt{4(-1) - 1}$$

$$= \sqrt{-4 - 1}$$

$$= \sqrt{-5}$$

NOT POSSIBLE

11. $f(x) = |4x - 1|$

$$f(1) = |4(1) - 1|$$

$$= |3|$$

$$f(1) = 3$$

$$f(0) = |4(0) - 1|$$

$$= |-1|$$

$$f(0) = 1$$

$$f(-1) = |4(-1) - 1|$$

$$= |-4 - 1| = |-5|$$

$$f(-1) = 5$$

12. $f(x) = 4^x - 1$

$$f(1) = 4^1 - 1$$

$$= 4 - 1$$

$$f(1) = 3$$

$$f(0) = 4^0 - 1$$

$$= 1 - 1$$

$$f(0) = 0$$

$$f(-1) = 4^{-1} - 1$$

$$= \frac{1}{4} - 1$$

$$f(-1) = -\frac{3}{4}$$

13. $f(x) = 2x + 3$

$f(1) = 2(1) + 3 = 5$

$f(0) = 2(0) + 3 = 3$

$f(-1) = 2(-1) + 3 = 1$

14. $f(x) = 2x^3 + 3$

$f(1) = 2(1)^3 + 3 = 2 + 3 = 5$

$f(0) = 2(0)^3 + 3 = 3$

$f(-1) = 2(-1)^3 + 3 = -2 + 3 = 1$

15. $f(x) = 2|x| + 3$

$f(1) = 2|1| + 3 = 5$

$f(0) = 2|0| + 3 = 3$

$f(-1) = 2|-1| + 3 = 5$

16. $f(x) = -|x| + 7$

$f(1) = -|1| + 7 = -1 + 7 = 6$

$f(0) = -|0| + 7 = 7$

$f(-1) = -|-1| + 7 = -1 + 7 = 6$

17. $f(x) = -x^2 + 7$

$f(1) = -(1)^2 + 7 = 6$

$f(0) = -(0)^2 + 7 = 7$

$f(-1) = -(-1)^2 + 7 = -1 + 7 = 6$

18. $f(x) = -x + 7$

$f(1) = -(1) + 7 = 6$

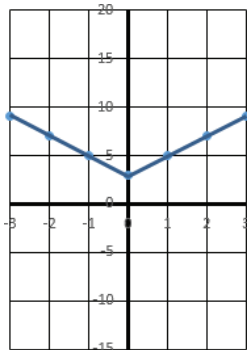
$f(0) = -(0) + 7 = 7$

$f(-1) = -(-1) + 7 = 8$

For Problems 19–24, match each graph with one of the equations from Problems 13–18.

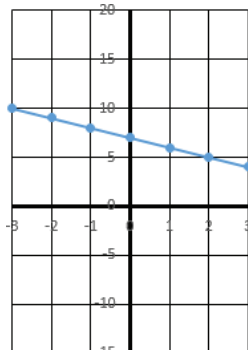
19. Equation from Problem _____

15



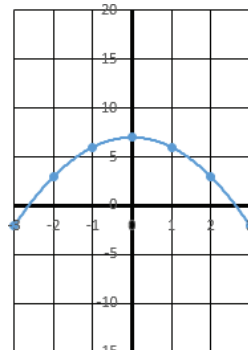
20. Equation from Problem _____

18



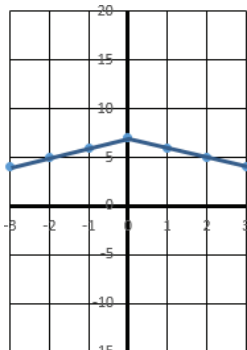
21. Equation from Problem _____

17



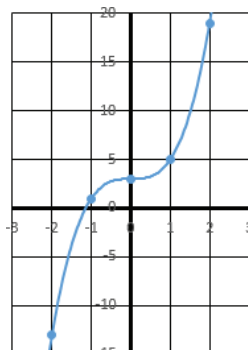
22. Equation from Problem _____

16



23. Equation from Problem _____

14



24. Equation from Problem _____

13

