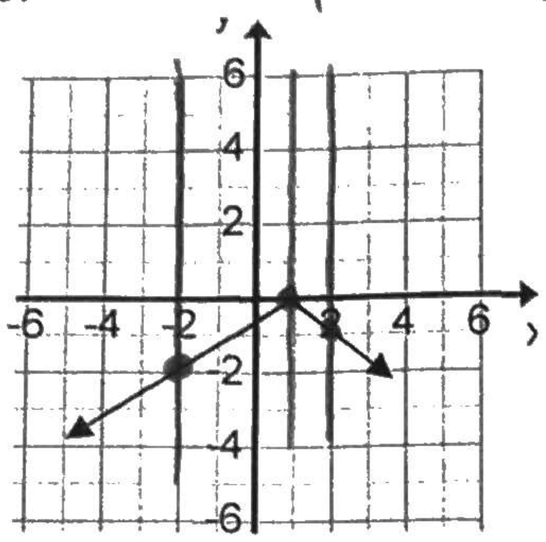
#3 Name Key

Use the Vertical Line Test (VLT) to determine if the relations are functions, then state the Domain and Range.

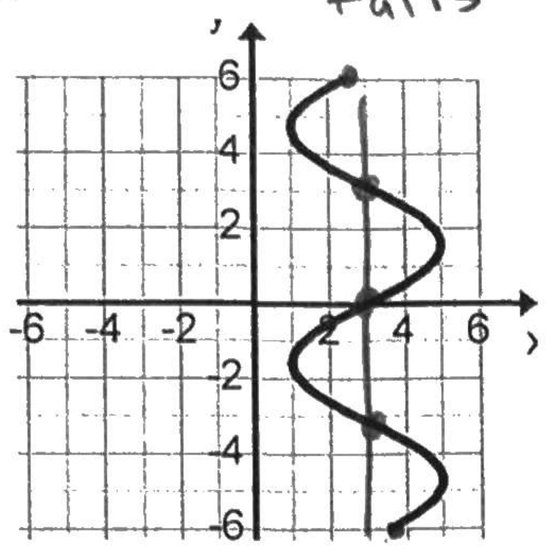
16. passes VLT



Just Relation or Function

D: $\mathbb{R}$ R: $y \leq 0$

17. Fails VLT



Just Relation or Function

D: $1 \leq x \leq 5$ R: $-6 \leq y \leq 6$

18. $\{(-2,4),(-2,2),(0,0),(1,-4)\}$

Just Relation or Function x's repeat

D: $\{-2,0,1\}$ R: $\{-4,0,2,4\}$

19. from the model of car to car's ID number.

Just Relation or Function

D: Car model R: ID #s

20. from dates James took math test to his test score

Just Relation or Function

D: Date R: Score

For each function, evaluate $f(-2)$, $f(0)$, $f\left(\frac{3}{2}\right)$. SHOW THE CORRECT NOTATION!!

20. $f(x) = -4x + 2$

$f(-2) = -4(-2) + 2$

$8 + 2$

$f(-2) = 10$

$f(0) = -4(0) + 2$

$0 + 2$

$f(0) = 2$

$f\left(\frac{3}{2}\right) = -4\left(\frac{3}{2}\right) + 2$

$-6 + 2$

$f\left(\frac{3}{2}\right) = -4$

21. $f(x) = x^2 - 3$

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

$= 4 - 3$

$f(-2) = 1$

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

$= 0 - 3$

$f(0) = -3$

$f\left(\frac{3}{2}\right) = \left(\frac{3}{2}\right)^2 - 3$

$\frac{9}{4} - 3$

$f\left(\frac{3}{2}\right) = 3/4$

22. $f(x) = \frac{x}{2} + 1$

$f(-2) = \frac{-2}{2} + 1$

$= -1 + 1$

$f(-2) = 0$

$f(0) = \frac{0}{2} + 1$

$= 0 + 1$

$f(0) = 1$

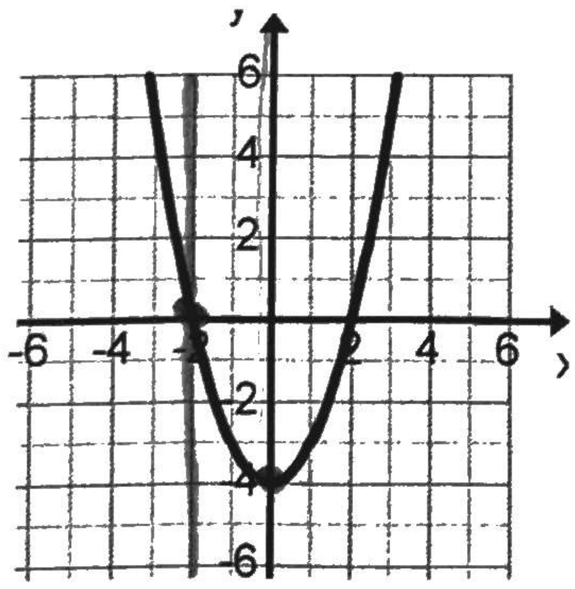
$f(3/2) = \frac{3/2}{2} + 1$

$= 3/4 + 1$

$f(3/2) = 1.75$ or $1\frac{3}{4}$

Evaluate each function for $f(-2)$ *and* $f(0)$.

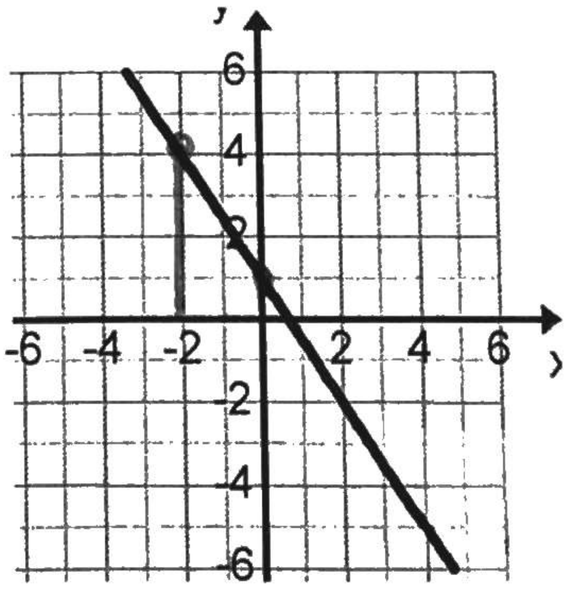
23.



$f(-2) = 0$

$f(0) = -4$

24.



$f(-2) = 4$

$f(0) = 1$