

(15)  $x^2 + y = -1$

✓  $y = -1 - x^2$

✓ The equation  $x^2 + y = -1$  determines  $y$  as a function of  $x$

(16)  $y = \sqrt{x+5}$

✓ The equation  $y = \sqrt{x+5}$  determines  $y$  as a function of  $x$ .

(18)  $x = -y + 5$

✓  $y = -x + 5$

✓ The equation  $x = -y + 5$  determines  $y$  as a function of  $x$ .

(19)  $y^2 = x^2 - 1$

✓  $y = \pm \sqrt{x^2 - 1}$

✓ The equation  $y^2 = x^2 - 1$  does not determine  $y$  as a function of  $x$ .

(22)  $|y| = 4 - x$

✓  $y = \pm(4 - x)$

$y = -4 + x$      $y = 4 - x$

✓ The equation  $|y| = 4 - x$  does not determine  $y$  as a function of  $x$ .

(23)  $x = -7$

✓ The equation  $x = -7$  does not determine  $y$  as a function of  $x$ .

$$\textcircled{25} \quad f(4) = \frac{1}{4+1} = \frac{1}{5} \quad \checkmark \quad \text{simplify}$$

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

$$f(4t) = \frac{1}{4t+1} \quad \checkmark$$

$$f(x+c) = \frac{1}{x+c+1} \quad \checkmark$$

✓✓ notation

$$\textcircled{29} \quad h(x+2) = (x+2)^2 - 2(x+2)$$

$$= x^2 + 4x + 4 - 2x - 4$$

$$= x^2 + 2x$$

✓ plug-in

✓✓ alg

✓ notation

$$\textcircled{33} \quad q(3) = \frac{1}{3^2-9} = \frac{1}{0} \quad \text{is undefined}$$

$$q(y+3) = \frac{1}{(y+3)^2-9} = \frac{1}{y^2+6y+9-9} = \frac{1}{y^2+6y}$$

✓✓ ans

✓ notation

✓✓

✓

$$\textcircled{35} \quad f(x^2) = \frac{|x^2|}{x^2} = \frac{x^2}{x^2} = 1$$

✓✓

✓

- (37) since  $-1 < 0$ , then  $f(-1) = 2(-1) + 1 = -1$  ✓  
 ✓ since  $0 \geq 0$ , then  $f(0) = 2(0) + 2 = 2$  ✓  
 ✓ since  $2 \geq 0$ , then  $f(2) = 2(2) + 2 = 6$  ✓  
 notation ✓✓✓ correct choice of  $f(x)$

(40)

$s$	0	1	$\frac{3}{2}$	$\frac{5}{2}$	4
$f(s)$	-1	-1	-1	1	1

✓✓✓ answers  
✓ notation

(65)  $f = \{(-2, 4), (-1, 3), (0, 2), (1, 3), (2, 4)\}$

✓✓✓ outputs ✓ notation

- (90) True, the set does represent a function since no input is repeated. ✓ justify

(91)  $r(x) = \frac{c}{x}$  ✓

✓ { let  $r(-4) = -8$   
 $\frac{c}{-4} = -8$

$c = 32$  ✓✓

$\therefore r(x) = \frac{32}{x}$

(92)  $g(x) = cx^2$  ✓

✓ { let  $g(-4) = -32$   
 $c(-4)^2 = -32$

$c = -2$  ✓✓

$\therefore g(x) = -2x^2$