

1.2

⑤ $f(x) = ax^2 + 4$ $(-1, 2)$ $\begin{matrix} \swarrow x \\ \searrow y=f(x) \end{matrix}$

$$2 = a(-1)^2 + 4$$

$$2 = a + 4$$

$$\begin{array}{r} -4 \\ \hline \end{array}$$

$$\boxed{a = -2}$$

④ $f(5) = -3$

⑩ a) $f(0) = 0, f(6) = 0$

b) $f(2) = -2, f(-2) = 1$

c) negative

d) positive

e) $x=0, x=4, x=6$

f) $(0, 4)$ OR $0 < x < 4$

g) $[4, 6]$

h) $[-2, 3]$

i) same as e: $(0, 0), (4, 0), (6, 0)$

j) $(0, 0)$

k) 2 times

l) once

m) $x=5$

n) $x=2$

o) $x=0, 4, 6$

(12) Yes, a fxn

a) $D: (-\infty, \infty)$
 $R: (0, \infty)$

b) $y=1$
c) no

(13) Yes, a fxn

a) $D: [-\pi, \pi]$
 $R: [-1, 1]$

b) $x = -\pi/2, \pi/2 ; y = 1$

c) Symmetric about the y axis

(22) Yes, a fxn

a) $D: (-\infty, \infty)$
 $R: [5, -\infty)$

b) $x = -1, 2 ; y = 4$

c) No

(24) $f(x) = -3x^2 + 5x$

a) $2 \stackrel{?}{=} -3(-1)^2 + 5(-1)$

$2 = -3 - 5$

$2 \neq -8$

No, $(-1, 2)$ is not on the graph

b) $f(-2) = -3(-2)^2 + 5(-2)$

$= -3(4) - 10$

$= -12 - 10 = -22$

$(-2, -22)$ is on the graph

