

Partial Answer Key to Review Packet

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1.

- a) $1/(x+1)$ (for x not equal to -1)
- b) $(x-8)/(x-4)$ (for x not equal to 4)
- c) $-1/(x+5)$ (for x not equal to -5)

2.

- a) $-h / (x (x+h))$
- b) $(x^3) / 5$
- c) $(2y^3)/(3x^5)$
- d) $3x^{(3/2)}$
- e) $20a^5$
- f) $8a^{(5/2)}$
- g) -2

3.

- a) 3
- b) -2
- c) 7
- d) 9
- e) 0
- f) 1

4.

- a) $z = (3-4x)/(10y)$
- b) $z = (4x-y^2)/(3y-8)$

5.

- a) $x+2$
- b) $3/4$
- c) $1/7$
- d) $y = \sqrt{x-5}$ OR $y = -\sqrt{x-5}$

6.

- a) $y-4 = -2(x-3)$
- b) $y-2 = (-5/6)(x+5)$
- c) $y=2$
- d) $y-1 = (2/3)(x-5)$
- e) $y-3 = (-1/2)(x-4)$

7.

$$y = 1 - (6/5)(x+3)$$

8.

$$D = 13$$

9.

- a) 1
- b) $-\sqrt{2}/2$
- c) -1
- d) $-\sqrt{3}/2$
- e) $1/2$
- f) -1
- g) $-\sqrt{3}$
- h) undefined or write: dne

10.
no key for these.

11.
HA: $y=3$
VA: $x=-2, x=2$

12.
no key

13.
a) (5, 36); (-3, -4)
b) $(2n\pi + \pi/4, \sqrt{2}/2)$

14.
a) $\{-6, 3\}$
b) $\{-3, 1/2\}$
c) $\{2, 8\}$
d) $-3 < x < 3$
e) $\{5\}$ only (why?)
f) $-4 < x < 10$
g) $x=274/9$
h) $\{0, 1/4\}$
i) $\{-3/2\}$
j) $\{\ln(3)/2\}$

15.
 $y^2 = 4(x-3)$

16.
no key

17.
no key

18.
no key

19.
no key

20.

a) $(\sin x)^2 + (\cos x)^2 = 1$

b) $(\tan x)^2 + 1 = (\sec x)^2$

c) $(\cot x)^2 + 1 = (\csc x)^2$

d) $\sin(2x) = 2 \sin(x) \cos(x)$

e) $\cos(2x) = (\cos(x))^2 - (\sin(x))^2$
 $= 2 (\cos(x))^2 - 1$
 $= 1 - 2(\sin(x))^2$