Section 13.3

1) $z = 2x - 15y + 8$

a) $f_x(x, y) =$?

b) $f_y(x, y) =$?

2) $z = 2x^4y^3 - 5y$

a) $f_x(x, y) =$?

b) $f_y(x, y) =$?

3) $z = x^2\sqrt{y}$

a) $f_x(x, y) =$?

b) $f_y(x, y) =$?

4) $z = 2x^4 - 15y^5 + 12$

a) $f_x(x, y) =$?

b) $f_y(x, y) =$?

5) $z = 2x^2e^{xy}$

a) $f_x(x, y) =$?

b) $f_y(x, y) =$?

6) $z = \ln\left(2x^2 - 5y + 3\right)$

a) $f_x\left(x, y\right) =$?

b) $f_y\left(x, y\right) =$?

7) $z = \sqrt{x^2 + 5y^3}$

a) $f_x\left(x, y\right) =$?

b) $f_y\left(x, y\right) =$?

8) $z = \dfrac{2x - y}{x + y}$

a) $f_x\left(x, y\right) =$?

b) $f_y\left(x, y\right) =$?

9) $z = \cos\left(3x + 5y\right)$

a) $f_x\left(x, y\right) =$?

b) $f_y\left(x, y\right) =$?

10) $z = \tan\left(7xy\right)$

a) $f_x\left(x, y\right) =$?

b) $f_y\left(x, y\right) =$?

11) $f(x,y,z) = \sin(2x - 15y + 8z)$

a) $f_x(x,y,z) =$?

b) $f_y(x,y,z) =$?

c) $f_z(x,y,z) =$?

12) $w = \ln(x^2 - 15y^3 + z)$

a) $\dfrac{\partial w}{\partial x} =$?

b) $\dfrac{\partial w}{\partial y} =$?

c) $\dfrac{\partial w}{\partial z} =$?

13) $z = 4x^2y^3$

a) $\dfrac{\partial z}{\partial x} =$?

b) $\dfrac{\partial z}{\partial y} =$?

c) $\dfrac{\partial^2 z}{\partial x^2} =$?

d) $\dfrac{\partial^2 z}{\partial y^2} =$?

e) $\dfrac{\partial^2 z}{\partial y \partial x} =$?

f) $\dfrac{\partial^2 z}{\partial x \partial y} =$?

14) $z = e^{2xy} - 7x$

a) $\frac{\partial z}{\partial x} =$?

b) $\frac{\partial z}{\partial y} =$?

c) $\frac{\partial^2 z}{\partial x^2} =$?

d) $\frac{\partial^2 z}{\partial y^2} =$?

e) $\frac{\partial^2 z}{\partial y \partial x} =$?

f) $\frac{\partial^2 z}{\partial x \partial y} =$?