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14.1 : 1, 3, 7, 21, 23, 33, 35

9/27/20

$$\textcircled{1} f(2,2) = (2) + (2)(2)^3$$

$$= 18$$

$$f(-1,4) = -5$$

$$\textcircled{3} h(x,y,z) = xyz^{-2} \quad (3,8,2) \quad (3,-2,-6)$$

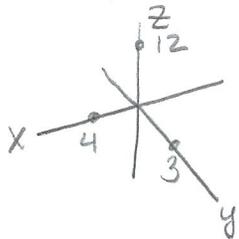
$$h(3,8,2) = (3)(8)(2)^{-2} = 6$$

$$h(3,-2,-6) = -\frac{1}{6}$$

$$\textcircled{7} f(x,y) = \ln(4x^2 - y)$$



$$\textcircled{21} f(x,y) = 12 - 3x - 4y$$



Horizontal traces:

$$3x + 4y = 12$$

$$3x + 4y = 12 - c$$

In plane $z = c$

Vertical traces:

$$x = a \text{ and } y = a$$

$$z = (12 - 3a) - 4y$$

$$z = (12 - 4a) - 3x$$

$$\textcircled{23} f(x,y) = x^2 + 4yz$$

Horizontal trace $\rightarrow c = x^2 + 4yz$
 $c > 0$

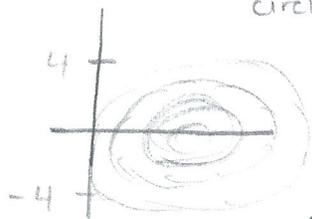
Vertical $\rightarrow z = a^2 + 4yz$ when $x = a$

$z = x^2 + 4a^2$ when $y = a$

? how to draw?

$$\textcircled{33} f(x,y) = x^2 + 4yz$$

circle



(drawing a contour map of $f(x,y)$ w/ an appropriate contour interval showing at least 6 level curves).

$$\textcircled{35} f(x,y) = x^2 ?$$

