

$$20) f(x) = 3x^2 - 6$$

$$g(x) = \frac{1}{3}x + 1$$

$$\text{Find: } f[g(0)] = \frac{1}{3}(0) + 1 = 1$$

$$f[g(0)] = f(1) = 3(1)^2 - 6$$
$$= -3$$

21) G.V.E
 $y = \frac{k}{x} \rightarrow \text{pitch} = \frac{k}{\text{wavelength}}$

$$1) \overset{2.1}{\cancel{450}} = \left(\frac{k}{\overset{2.1}{\cancel{2.1}}} \right) = k = 945$$

$$2) \overset{x}{\cancel{740}} = \left(\frac{945}{\overset{x}{\cancel{x}}} \right) *$$

$$\frac{\cancel{740}x}{\cancel{740}} = \frac{945}{\cancel{740}}$$

$$x = 1.28 \text{ m}$$

$$22) \begin{vmatrix} -5 & 4x \\ 4 & -x \end{vmatrix} = -330 \quad \begin{vmatrix} a & b \\ c & d \end{vmatrix}$$

$$(-5 \cdot -x) - (4 \cdot 4x) = -330$$

$$5x - 16x = -330$$

$$\frac{-11x}{-11} = \frac{-330}{-11}$$

$$x = 30$$

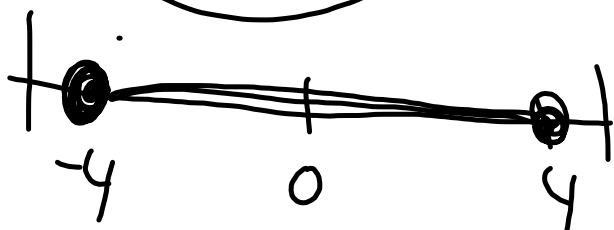
$$24) |x| \leq 4$$

$$x \leq 4$$

$$[-4, 4]$$

$$\frac{-x}{-1} \leq \frac{4}{-1} +$$

$$x \geq -4$$



25)

1.3 Properties of Real Numbers

reciprocals: $\frac{x}{1} \cdot \frac{1}{x} = 1$

Comm. of addition: $a+b = b+a$ $1+2 = 2+1$

" of multiplication: $ab = ba$ $3(4) = 4(3)$

Asso. of addition: $a+(b+c) = (a+b)+c$

" of multiplication: $a(bc) = (ab)c$

Dist. property: $a(b+c) = ab+ac$



$$3(4+5)$$

$$12 + 15$$

$$27$$

$$3(4+5)$$

$$3(9)$$

$$27$$

Additive identity: $a + 0 = a$

$$0 + a = a$$

Multiplicative identity: $a(1) = 1(a)$

additive inverse: $a + (-a) = 0$

multiplicative inverse: $a\left(\frac{1}{a}\right) = 1$

$$5a + 7 + 8a + a$$

$$14a + 7$$

$$7(2a + 1)$$