

Grace &  
Lucy  
5-7-22

$$(4) \sin^2 x + \cos^2 x = 1$$

$$\frac{4}{13} + ? = 1$$

$$(2) a \sin(x)$$

amplitude

amplitude

Convert to exponent form

$$(4) \log_{10}(x) = y \implies 10^y = x$$

input input

x		Example
+	✓	$10^1 = 10$
0	✗	✗
-	✗	✗

so domain of  $x$  is  $(0, \infty)$

$$y = \log_{10}(x^2 - 4x + 3)$$

has to be  $> 0$

$$x^2 - 4x + 3 > 0$$

$$(5) \det \begin{vmatrix} 8 & 3 \\ -5 & -2 \end{vmatrix} = f(-2) - (3(-5)) = -16 - (-15) = -1$$

main diagonal

off diagonal

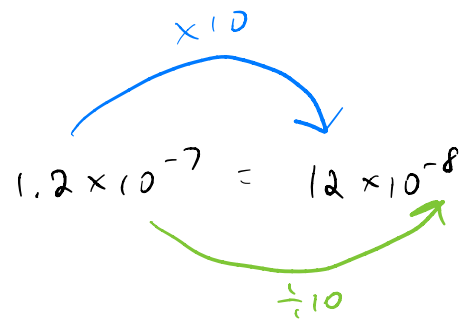
$$\det \begin{vmatrix} a & b \\ c & d \end{vmatrix} = ad - bc$$

# 32) Scientific notation

standard 1 2 0 0 0 0 0 0 0

scientific  $1.2 \times 10^8$

scientific  $1.2 \times 10^{-7}$   
 standard , 0 0 0 0 0 0 0 1 2  
 [1, 10)



Related to base -10  
 counting in base -2  
 any base

2.3 million

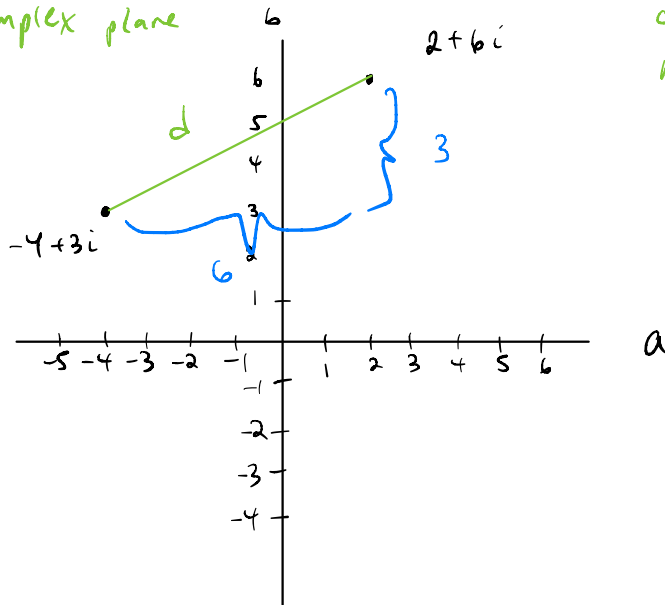
$$2.3 \times 10^6$$

1 2 3 4

1	thousand	=	$1 \times 10^3$
2	hundreds		$+ 2 \times 10^2$
3	tens		$+ 3 \times 10^1$
4	ones		$+ 4 \times 10^0$

57)

complex plane

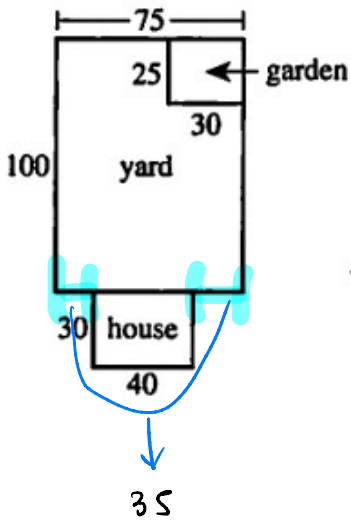
complex  
number :  $a + bi$ 

$$\begin{aligned} \text{distance} &= \sqrt{3^2 + 6^2} \\ &= \sqrt{9 + 36} \\ &= \sqrt{45} \end{aligned}$$

$$\text{distance} = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

magnitude of  $a + bi$  is  $\sqrt{a^2 + b^2}$

39)



$$100 + 100 + 75 + 35 = C. 310$$

59)

standard deviation  $\sigma$   
(sigma)

variance

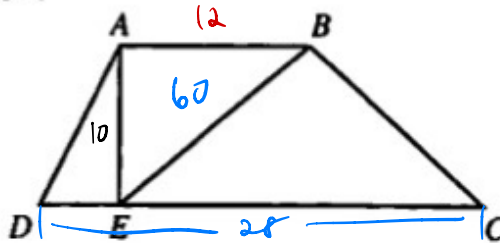
$\sigma^2$   
(sigma squared)

A)

49)

49. In the figure below,  $ABCD$  is a trapezoid with  $\overline{AE}$  perpendicular to  $\overline{AB}$ ;  $\overline{AE}$  is 10 units long; and  $\overline{DC}$  is 28 units long. If the area of right triangle  $\triangle EBA$  is 60 square units, what is the area, in square units, of trapezoid  $ABCD$ ?

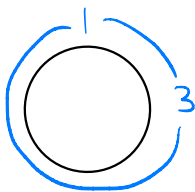
- A. 140  
B. 170  
C. 180  
D. 200  
E. 240



$$A_{\text{trapezoid}} = \left( \frac{b_1 + b_2}{2} \right) h$$

$$= \frac{28 + 12}{2} \cdot 10 = 20 \cdot 10 = 200$$

60)



How far does center of circle move in one rotation?

3 units

51)

Geometry :

ALWAYS GRAPH or

DRAW PICTURE