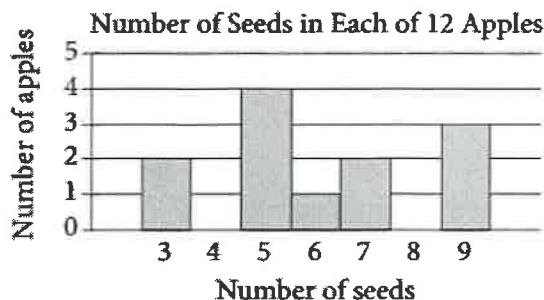


Set #5A Calculator

1.



Based on the histogram above, of the following, which is closest to the average (arithmetic mean) number of seeds per apple?

- A) 4
- B) 5
- C) 6
- D) 7

~~200/12~~

$$\frac{3+3+5+5+5+5+6+7+7+9+9+9}{12}$$

≈ 6.08

2.

A food truck sells salads for \$6.50 each and drinks for \$2.00 each. The food truck's revenue from selling a total of 209 salads and drinks in one day was \$836.50. How many salads were sold that day?

- A) 77
- B) 93
- C) 99
- D) 105

$$\begin{aligned} x + y &= 209 \\ x &= 209 - y \end{aligned}$$

$$6.50x + 2y = 836.50$$

$$\begin{aligned} 6.50(209 - y) + 2(y) &= 836.50 \\ 1358.50 - 6.5y + 2y &= 836.50 \\ -4.5y &= -522 \end{aligned}$$

$$y = 116$$

$$\begin{aligned} \text{Salads} &= 209 - y \\ &= 209 - 116 \\ &= 93 \end{aligned}$$

Alma bought a laptop computer at a store that gave a 20 percent discount off its original price. The total amount she paid to the cashier was p dollars, including an 8 percent sales tax on the discounted price. Which of the following represents the original price of the computer in terms of p ?

3.

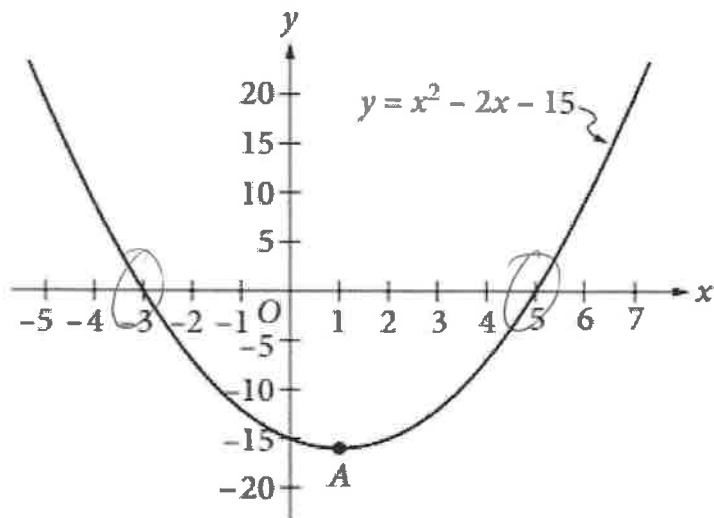
- A) $0.88p$
- B) $\frac{p}{0.88}$
- C) $(0.8)(1.08)p$
- D) $\frac{p}{(0.8)(1.08)}$

$C = \text{orig. price}$

$$P = (0.80)C(1.08)$$

$$\frac{P}{(0.8)(1.08)} = C$$

4.



Which of the following is an equivalent form of the equation of the graph shown in the xy -plane above, from which the coordinates of vertex A can be identified as constants in the equation?

- (A) $y = (x + 3)(x - 5)$
 B) $y = (x - 3)(x + 5)$
 C) $y = x(x - 2) - 15$
 D) $y = (x - 1)^2 - 16$

5.

Wyatt can husk at least 12 dozen ears of corn per hour and at most 18 dozen ears of corn per hour. Based on this information, what is a possible amount of time, in hours, that it could take Wyatt to husk 72 dozen ears of corn?

$$12 \text{ dz/hr} \text{ --- } 18 \text{ dz/hr}$$

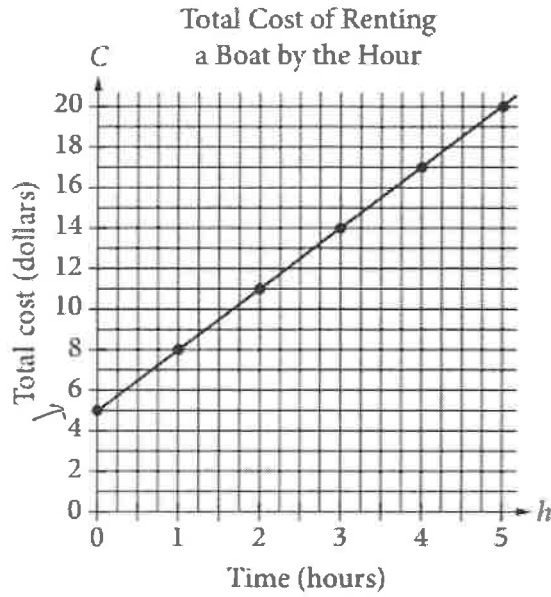
$$6 \text{ hr} \text{ --- } 4 \text{ hr}$$

$$4 \text{ hr} \text{ --- } 6 \text{ hr}$$

Set #5B Calculator

1 and 2. Use the following image for the first two questions.

starts @ 5
slope = 3



The graph above displays the total cost C , in dollars, of renting a boat for h hours.

Which of the following represents the relationship between h and C ?

A) $C = 5h$

B) $C = \frac{3}{4}h + 5$

C) $C = 3h + 5$

D) $h = 3C$

What does the C -intercept represent in the graph?

- A) The initial cost of renting the boat**
- B) The total number of boats rented
- C) The total number of hours the boat is rented
- D) The increase in cost to rent the boat for each additional hour

3.

$$y < -x + a$$

$$y > x + b$$

In the xy -plane, if $(0, 0)$ is a solution to the system of inequalities above, which of the following relationships between a and b must be true?

A) $a > b$

B) $b > a$

C) $|a| > |b|$

D) $a = -b$

$0 < a$ $a > 0$
 $0 > b$ $b < 0$

4.

Dreams Recalled during One Week

	None	1 to 4	5 or more	Total
Group X	15	28	57	100
Group Y	21	11	68	100
Total	36	39	125	200

The data in the table above were produced by a sleep researcher studying the number of dreams people recall when asked to record their dreams for one week. Group X consisted of 100 people who observed early bedtimes, and Group Y consisted of 100 people who observed later bedtimes. If a person is chosen at random from those who recalled at least 1 dream, what is the probability that the person belonged to Group Y?

A) $\frac{68}{100}$

B) $\frac{79}{100}$

C) $\frac{79}{164}$

D) $\frac{164}{200}$

~~$\frac{28+11}{28+11+68+68}$~~
 $\frac{79}{164}$

5.

$$h(x) = \frac{1}{(x-5)^2 + 4(x-5) + 4}$$

For what value of x is the function h above undefined?

~~$x-5=0$~~
 ~~$x \neq 5$~~

$$(x-5)^2 + 4(x-5) + 4$$

$$x^2 - 10x + 25 + 4x - 20 + 4$$

$$x^2 - 6x + 9 = 0$$

$$(x-3)(x-3) = 0$$

$$x = 3$$

$$x \neq 3$$

Set #5C

1. A software company is selling a new game in a standard edition and a collector's edition. The box for the standard edition has a volume of 20 cubic inches, and the box for the collector's edition has a volume of 30 cubic inches. The company receives an order for 75 copies of the game, and the total volume of the order to be shipped is 1,870 cubic inches. Which of the following systems of equations can be used to determine the number of standard edition games, (s) and collector's edition games, (c) that were ordered?

$S = \text{standard}$
 $C = \text{collectors}$

A) $75 - s = c$
 $20s + 30c = 1,870$

$20s + 30c = 1870$

B) $75 - s = c$
 $30s + 20c = 1,870$

C) $s - c = 75$
 $25(s + c) = 1,870$

D) $s - c = 75$
 $30s + 20c = 1,870$

2. Lani spent 15% of her 8-hour workday in meetings. How many minutes of her workday did she spend in meetings?

- A) 1.2
 B) 15
 C) 48
 D) 72

$8 \text{ hr} = 480 \text{ min}$

480
 $\times 0.15$

 72 min

3.

$$y = 19.99 + 1.50x$$

The equation above models the total cost y , in dollars, that a company charges a customer to rent a truck for one day and drive the truck x miles. The total cost consists of a flat fee plus a charge per mile driven. When the equation is graphed in the xy -plane, what does the y -intercept of the graph represent in terms of the model?

- A) A flat fee of \$19.99
- B) A charge per mile of \$1.50
- C) A charge per mile of \$19.99
- D) Total daily charges of \$21.49

4.

Which of the following ordered pairs (x, y) satisfies the inequality $5x - 3y < 4$?

I. (1, 1)

II. (2, 5)

III. (3, 2)

- A) I only
- B) II only
- C) I and II only
- D) I and III only

Graph or Plug in

$$5(1) - 3(1) < 4$$

$$5 - 3 < 4 \quad \checkmark$$

$$5(2) - 3(5) < 4$$

$$10 - 15 < 4 \quad \checkmark$$

$$5(3) - 3(2) < 4$$

$$15 - 6 < 4$$

5.

$$h(t) = -16t^2 + 110t + 72$$

The function above models the height h , in feet, of an object above ground t seconds after being launched straight up in the air. What does the number 72 represent in the function?

- A) The initial height, in feet, of the object
- B) The maximum height, in feet, of the object
- C) The initial speed, in feet per second, of the object
- D) The maximum speed, in feet per second, of the object