

Pre-AP Precalculus

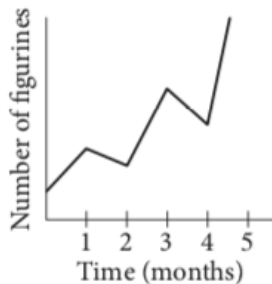
CR 2 – SAT PREP 9

CALCULATOR ALLOWED

- 1] One pound of grapes costs \$2. At this rate, how many dollars will c pounds of grapes cost?

- A) $2c$
- B) $2 + c$
- C) $\frac{2}{c}$
- D) $\frac{c}{2}$

- 2] Tracy collects, sells, and trades figurines, and she tracks the number of figurines in her collection on the graph below.



On what interval did the number of figurines decrease the fastest?

- A) Between 1 and 2 months
- B) Between 2 and 3 months
- C) Between 3 and 4 months
- D) Between 4 and 5 months

- 3] In the xy -plane, the graph of which of the following equations is a line with a slope of 3?

- A) $y = \frac{1}{3}x$
- B) $y = x - 3$
- C) $y = 3x + 2$
- D) $y = 6x + 3$

- 4] Two types of tickets were sold for a concert held at an amphitheater. Tickets to sit on a bench during the concert cost \$75 each, and tickets to sit on the lawn during the concert cost \$40 each. Organizers of the concert announced that 350 tickets had been sold and that \$19,250 had been raised through ticket sales alone. Which of the following systems of equations could be used to find the number of tickets for bench seats, B , and the number of tickets for lawn seats, L , that were sold for the concert?

- A) $(75B)(40L) = 1,950$
 $B + L = 350$
- B) $40B + 75L = 19,250$
 $B + L = 350$
- C) $75B + 40L = 350$
 $B + L = 19,250$
- D) $75B + 40L = 19,250$
 $B + L = 350$

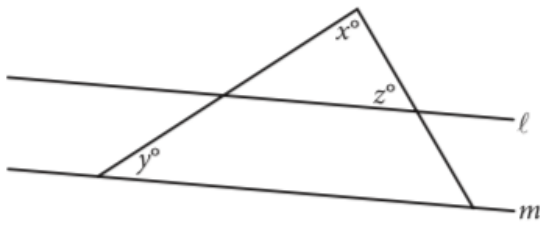
5]

$$x + 1 = \frac{2}{x + 1}$$

In the equation above, which of the following is a possible value of $x + 1$?

- A) $1 - \sqrt{2}$
- B) $\sqrt{2}$
- C) 2
- D) 4

6]

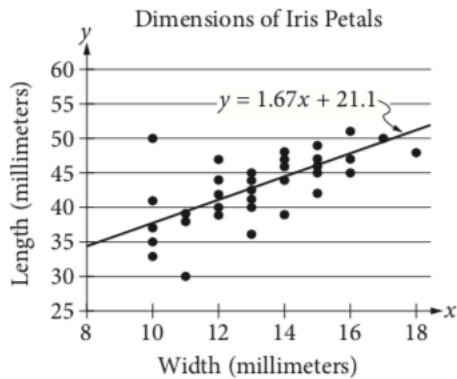


Note: Figure not drawn to scale.

In the figure above, lines ℓ and m are parallel, $y = 20$, and $z = 60$. What is the value of x ?

- A) 120
- B) 100
- C) 90
- D) 80

7]



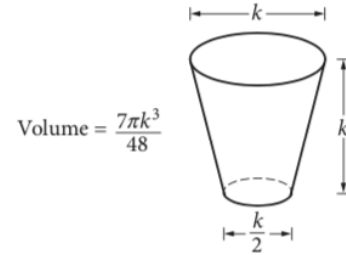
The scatterplot above shows data collected on the lengths and widths of *Iris setosa* petals. A line of best fit for the data is also shown. Based on the line of best fit, if the width of an *Iris setosa* petal is 19 millimeters, what is the predicted length, in millimeters, of the petal?

- A) 21.10
- B) 31.73
- C) 52.83
- D) 55.27

8] In a random sample of 200 cars of a particular model, 3 have a manufacturing defect. At this rate, how many of 10,000 cars of the same model will have a manufacturing defect?

- A) 150
- B) 200
- C) 250
- D) 300

Use the diagram below for #s 9 and 10.



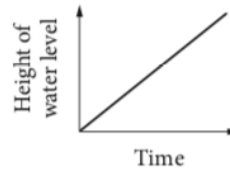
9] The glass pictured above can hold a maximum volume of 473 cubic centimeters, which is approximately 16 fluid ounces.

What is the value of k , in centimeters?

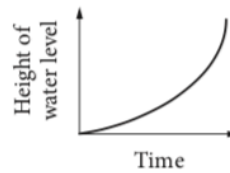
- A) 2.52
- B) 7.67
- C) 7.79
- D) 10.11

10] Water pours into the glass slowly and at a constant rate. Which of the following graphs best illustrates the height of the water level in the glass as it fills?

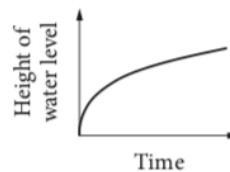
A)



B)



C)



D)

