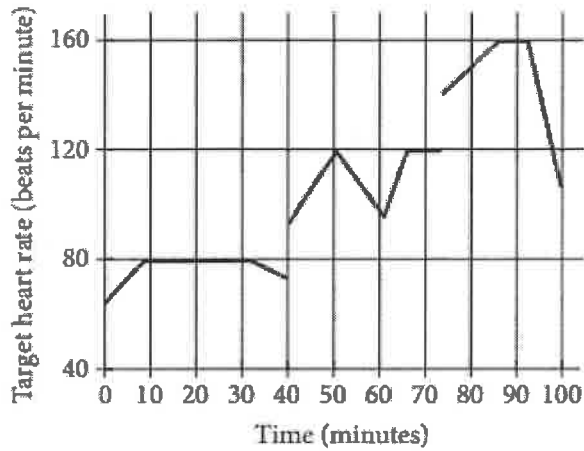


1.27 sec per problem

SAT Set #3A

Calculator Section

1. John runs at different speeds as part of his training program. The graph shows his target heart rate at different times during his workout. On which interval is the target heart rate strictly increasing then strictly decreasing?

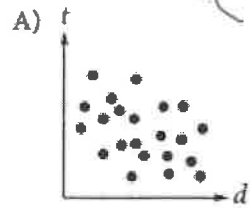


- A) Between 0 and 30 minutes
B) Between 40 and 60 minutes
C) Between 50 and 65 minutes
D) Between 70 and 90 minutes
2. If $y = kx$, where k is a constant, and $y = 24$ when $x = 6$, what is the value of y when $x = 5$?

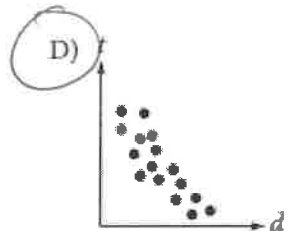
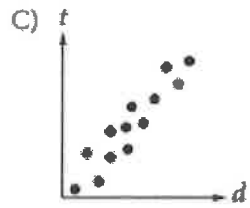
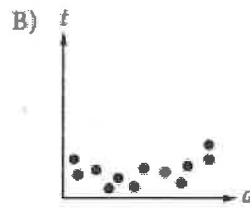
- A) 6
B) 15
C) 20
D) 23

$$y = kx$$
$$24 = 6k$$
$$4 = k$$
$$y = 4x$$
$$y = 4(5)$$

3. Which of the following graphs best shows a strong negative association between d and t ?



correlation



4.

| | | Course | | | Total |
|--------|--------|-----------|----------|------------|-------|
| | | Algebra I | Geometry | Algebra II | |
| Gender | Female | 35 | 53 | 62 | 150 |
| | Male | 44 | 59 | 57 | 160 |
| | Total | 79 | 112 | 119 | 310 |

A group of tenth-grade students responded to a survey that asked which math course they were currently enrolled in. The survey data were broken down as shown in the table above. Which of the following categories accounts for approximately 19 percent of all the survey respondents?

- A) Females taking Geometry
- B) Females taking Algebra II
- C) Males taking Geometry
- D) Males taking Algebra I

$$\frac{59}{310} = .1903 = 19.03\%$$

Best : Quickest Way : $.19 \times 310 = 58.9$

5. A local television station sells time slots for programs in 30-minute intervals. If the station operates 24 hours per day, every day of the week, what is the total number of 30-minute time slots the station can sell for Tuesday and Wednesday?

2 per hour
48 per 1 day
96 per 2 days

SAT Set #3A

Calculator Section

Key

1. B

2. C

3. D

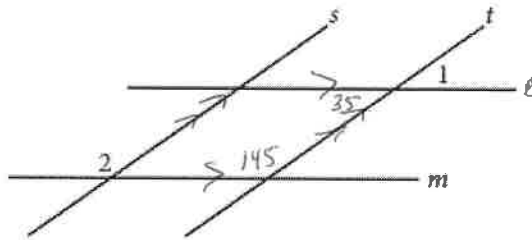
4. C

5. 96

SAT Set #3B

Calculator Section

1.



In the figure above, lines l and m are parallel and lines s and t are parallel. If the measure of $\angle 1$ is 35° , what is the measure of $\angle 2$?

- A) 35°
- B) 55°
- C) 70°
- D) 145°

3.

For what value of n is $|n - 1| + 1$ equal to 0?

- A) 0
- B) 1
- C) 2
- D) There is no such value of n .

2.

1 decagram = 10 grams
1,000 milligrams = 1 gram

A hospital stores one type of medicine in 2-decagram containers. Based on the information given in the box above, how many 1-milligram doses are there in one 2-decagram container?

- A) 0.002
- B) 200
- C) 2,000
- D) 20,000

$$10,000 \text{ mg} = 10 \text{ grams}$$

$$2000 \text{ mg} = 2 \text{ grams}$$

$$\frac{1 \text{ dg}}{10,000 \text{ mg}} = \frac{2 \text{ dg}}{x}$$

or

$$20,000 = 20 \text{ grams (1 mg)}$$

$$x = 20,000$$

4.

$$h = -4.9t^2 + 25t$$

The equation above expresses the approximate height h , in meters, of a ball t seconds after it is launched vertically upward from the ground with an initial velocity of 25 meters per second. After approximately how many seconds will the ball hit the ground?

- A) 3.5
 B) 4.0
 C) 4.5
 D) 5.0

$$0 = -4.9t^2 + 25t \quad \text{TI-84}$$

$$y = -4.9t^2 + 25t$$

$$(0,0) \quad (\underline{\underline{5}},0)$$

5.

The posted weight limit for a covered wooden bridge in Pennsylvania is 6000 pounds. A delivery truck that is carrying x identical boxes each weighing 14 pounds will pass over the bridge. If the combined weight of the empty delivery truck and its driver is 4500 pounds, what is the maximum possible value for x that will keep the combined weight of the truck, driver, and boxes below the bridge's posted weight limit?

$$y = 14x + 4500$$

$$6000 = 14x + 4500$$

$$1500 = 14x$$

$$107 = x$$

Key Set #3B

1. D

2. D

3. D

4. D

5. 107

SAT Set #3C

Calculator Section

1. Suppose $y = \frac{k}{x}$. If $y = 6$ when $x = 2$, what is x when $y = 3$?

A. 2

B. 9

C. 36

D. 4

$$\frac{6}{1} = \frac{k}{2}$$

$$k = 12$$

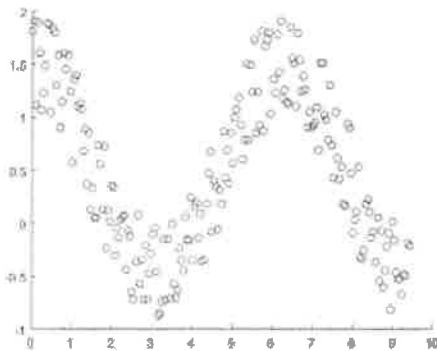
$$\frac{3}{1} = \frac{12}{x}$$

$$3x = 12$$

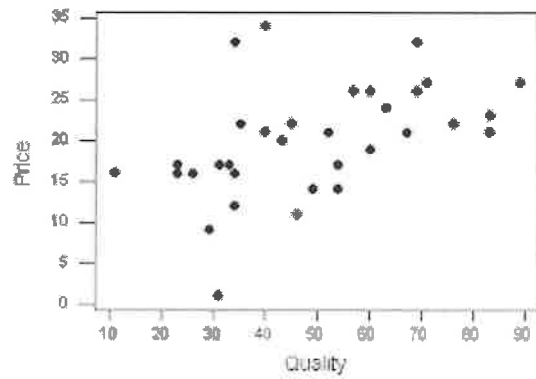
$$x = 4$$

2. Which of the following scatterplots best represents two variables with a strong, positive association?

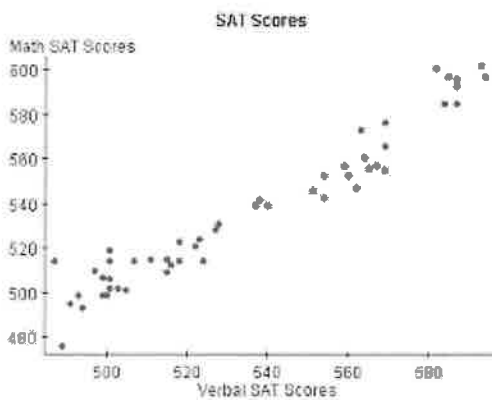
A.



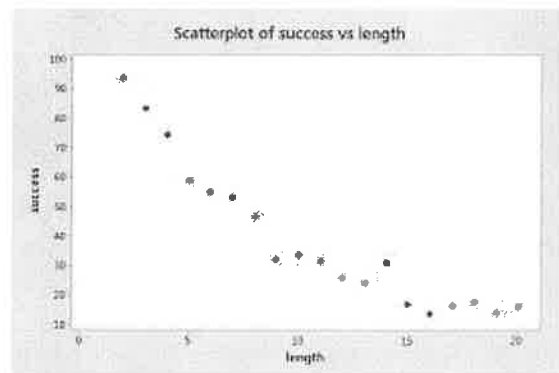
B.



C.



D.



3. For which of the following values of x is $|x+2|+3$ equal to zero?

A. -2

B. -3

C. 2

D. There are no such values of x .

$$|x+2| + 3 = 0$$

$$|x+2| = -3$$



4. If $h = -5t^2 + 20t$ represents the height, h , of a golf ball t seconds after being hit off the ground, after how many seconds does the ball hit the ground?

$$y = -5t^2 + 20t \quad TI-84$$

$$(0, 0) \quad (\underline{4}, 0)$$

4 seconds

5. Sloan is saving money to buy a \$4,000 car. She already has \$1200 in her savings account and she is working at a job that pays her \$50 per shift. If she saves all of her money, how many shifts must she work in order to be able to afford the car?

$$4000 = 50x + 1200$$

$$2800 = 50x$$

$$56 = x$$

56 shifts