



March Digital SAT math questions:

Question 1

Rectangle	Area
A	50
B	450

The table above shows the area of rectangle A and B in m^2 . Rectangle A has a perimeter of 30m. If both rectangles are similar, what is the perimeter of rectangle B?

- A) 45
- B) 90
- C) 270
- D) 4050

Question 2

A Circle with center B, (0,0) is on the X-Y Plane. Point A (2,0) and C (-2,y) lies on the circle. What is the measurement of angle ABC in radians if point c revolved 8 time around the center?

- A) π
- B) 9π
- C) 17π
- D) 20π

Question 3

A rectangular complex under construction has an area of $55,000 m^2$. A design architect wants to create a model for the construction engineers to help them with the process. If the length and the width of the model is $\frac{1}{20}$ of the original, what will be the area of the model in m^2 .

Question 4

A quadratic function can be used to model the height, in feet, of a rocket above the ground in terms of the time, in seconds, after the rocket was launched. According to the function the rocket was launched at an initial height of 6 feet, and after 10 seconds it reached its maximum height at 364 feet. What was the rocket's height after 12 seconds?
(Round your answer to the nearest feet)

Question 5

x	f(x)
10	-21
14	11
18	-21

Three points on the quadratic function $f(x)$ are shown in the table above. If $g(x) = f(x) + 1$, what is the Y-intercept of the function $g(x)$?





Question 6

A tank in a shape of a rectangular prism has a length of 24 inches, a width of 96 inches, and a height of 192 inches. The equation $c = (v) \times (d)$ calculates the cost of filling the tank, where c is the total cost in dollars, v is the volume in cubic yards, and d is the cost per cubic yard. If c is equal to \$230, what is the value of d in dollars?

(Note: 1 yard = 36 inches)

(Round your answer to the nearest dollar)

Question 7

A Dodge Ball team is made up of 52 players, where 30 are pitchers and 22 are catchers. Each player is assigned a specific position, either in field or out field player. The number of in field and out field players are 26 each. If the probability of selecting an out fielder from catchers is 0.5, what is the probability of selecting an in fielder from pitchers?





May Digital SAT math Hard Questions:

Question 1

Shape	Volume
Cylinder A	300π
Cylinder B	8100π

Cylinder A and Cylinder B are similar right cylinders. The radius of Cylinder A is 4, and its surface area is $d\pi$. The surface area of Cylinder B is $t\pi$. What is the value of $t-d$? (Note: surface area of a cylinder is $2\pi rh + 2\pi r^2$)

Question 2

How many square meters per minute is equivalent to a rate of 240 square centimeters per hour? (Note: 1 meter = 100 centimeter)

Question 3

The function $f(x) = |x|/s - 10$ where $s < 0$. What is the sum of $f(15s)$ and $f(3s)$?

Question 4

Which of the following has $x+2b$ as a factor where b is a positive integer?

- A. $3x^2 + 7x + 14b$
- B. $3x^2 + 28x + 14b$
- C. $3x^2 + 42x + 14b$
- D. $3x^2 + 49x + 14b$

Question 5

$$y = x - c$$

$$y = -4(x - 10)^2$$

The system above has at least 1 solution. What is the minimum value of C ?

- A) 10
- B) $159/16$
- C) $161/12$
- D) $-159/16$

Question 6

The quadratic function $ax^2 + 100x + c$ has at least one real solution. What is the greatest possible value of ac ?





Question 7

A circle on the X-Y Plane has a center of $(-2, -5)$. Line K is tangent to the circle on the point $(-4, 1)$. What is the slope of line K?

Question 9

$$F(x) = (x-2)(x-5)(x+9)$$

The above function $f(x)$ is the result of translating $g(x)$ up 5 units. What is the y-intercept of $g(x)$?

Question 8

Which of the following choices has the least Standard deviation?

A)

Value	Frequency
5	1
10	5
15	3
20	5
25	1

B)

Value	Frequency
5	0
10	10
15	15
20	10
25	0

C)

Value	Frequency
5	100
10	50
15	25
20	0
25	25

D)

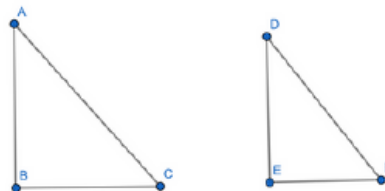
Value	Frequency
5	55
10	65
15	75
20	80
25	85

Question 10

$$f(x) = 75(0.3)^x$$

The function $f(x)$ is a decreasing exponential function. By what percent is $f(n)$ less than $f(n-1)$?

Question 11



The 2 right triangles ABC and DEF shown above are similar, where A corresponds to D and B corresponds to E. If $\tan(A) = 15/25$, what is $\tan(F)$?

A) $25/15$

B) $15/25$

C) $5/34$

D) 1





Question 12

The quadratic function $f(x)$ gives the product of X , and the sum of x and 84. What is the quadratic function $f(x)$?

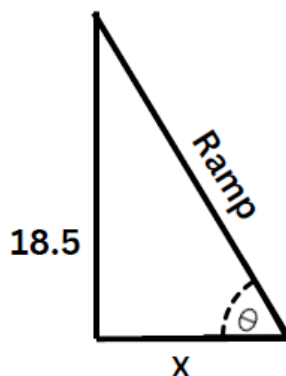
- A) $X^2 + 84X + 84$
- B) $X^2 + 84X$
- C) $84X^2 + X + 84$
- D) X^2

Question 13

How many X -intercepts does the function $f(x) = x(8x+3)^4(2x+1)^3$ has?

- A) 2
- B) 7
- C) 1
- D) 3

Question 14



In the Right triangle above $\tan(\theta) \leq 1/10$.
The height of the triangle is 18.5 meters.
What is the least possible value of X ?

Question 15

A Circle with center $(-10,4)$ has a radius equal to 16. The equation $x^2 + y^2 + ax + by + c = 0$ represents the circle. What is the value of C ?

Question 16

The function $f(x) = \frac{1}{3}(x+5)^2 - 8$. What is the X value where $f(x)$ reaches its minimum?

- A) 5
- B) 8
- C) -5
- D) -8

Question 17

$$\sqrt{(x-70)^2} = -6x$$

What is the value of x ?

- A) -14
- B) -10
- C) 10
- D) 14





June Digital SAT math Hard Questions:

Question 1

The volume of a rectangular prism has a square base with an area of 225 meters squared. What is the lateral surface area of one of the faces if rectangular prism has a volume of 4500?

Question 2

A Circle with center B, (0,0) is a unit circle on the X-Y Plane. Point A (1,0) and C lies on the circle. If the measurement of angle ABC is $\frac{855\pi}{60}$ in radians what is the x coordinate of point c?

A) $\frac{\sqrt{2}}{2}$

B) $-\frac{\sqrt{2}}{2}$

C) 0

D) $\frac{\sqrt{2}}{3}$

Question 3

$$\frac{x-10}{7} = \frac{x-4}{3}$$

What is the range that x-3 exist on?

A) {5,7}

B) {2,4}

C) {-1,1}

D) {-4,-2}

Question 4

A quadratic function can be used to model the height, in feet, of a rocket above the ground in terms of the time, in seconds, after the rocket was launched. According to the function the rocket was launched at an initial height of 6 feet, and after 10 seconds it reached its maximum height at 364 feet. What was the rocket's height after 12 seconds?

Question 5

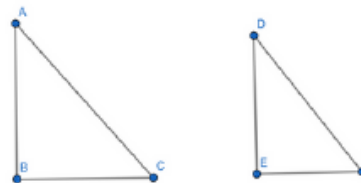
$$4x^2 + 52x + c = 0$$

In the quadratic function above c is a constant. The equation has no real solutions if $c > n$. What is the least possible value of n.

Question 6

Given that the function $f(x) = a^x - b$ passes through the points (c, 8) and (2c, 280), where c and a are positive constant, and a and b are unknown constants, what is the value of b?

Question 7



The 2 right triangles ABC and DEF shown above are similar, where A corresponds to D and B corresponds to E. If side AC = 3 DE and the tangent of angle C is $\frac{12}{5}$, what is $\cos(D)$?





Question 8

A rectangular area consists of 384 equal squares where each square has an area of r . If the width of the rectangular area is 1.5 times the length and the length is equal to $x\sqrt{r}$, what is the value of x ?

Question 9

$$9|x-2|=r$$

What is the value of $r/9$ if the equation shown above has only one solution?

- a) -3 only
- b) 3 or -3
- c) 3 only
- d) 0

Question 10

An equilateral triangle has a perimeter of 900 meters. If the height of the triangle is equal to $x\sqrt{3}$, what is the value of x ?

