| | |
|---|---|
| **Started on** | Friday, 12 January 2024, 5:21 PM |
| **State** | Finished |
| **Completed on** | Friday, 12 January 2024, 5:21 PM |
| **Time taken** | 11 secs |
| **Grade** | **0.00** out of 20.00 (**0**%) |

**Question 1**

Not answered

Marked out of 1.00

The difference between twice a number and two is three times the number. Which of the following represents the equation that can be used to solve the number?

Select one:

A. $2x - 3x = 3 + x$

B. $2x - 2 = 3(x - 2)$

C. $2 - 2x = 3$

D. $2x - 2 = 3x$

Your answer is incorrect.

The correct answer is: $2 - 2x = 3$

**Question 2**

Not answered

Marked out of 1.00

If 50% of a is b, then a =

Select one:

A. 0.50b

B. $\frac{b}{2}$

C. 2b

D. 50b

Your answer is incorrect.

The correct answer is: 2b

**Question 3**

Not answered

Marked out of 1.00

Ibrahim needs enough fencing to enclose a rectangular garden with a perimeter of 200 meters. If the length of his garden is to be 60 meters, which of the following equations can be used to solve the width of the garden?

Select one:

A. x + 60 = 200

B. 2x – 200 = 120

C. 2x + 60 = 200

D. 2x + 120 = 200

Your answer is incorrect.

The correct answer is: 2x + 120 = 200

**Question 4**

Not answered

Marked out of 1.00

g=12- $\frac{m}{20}$ Ibrahim fills up the gas tank of his car before going for a trip. The equation above models the amount of gas g, in gallons, in Ibrahim's car when he has driven m kilometers

**4 _How many gallons of gas can Ibrahim's tank hold?**

Select one:

A. 20

B. 8

C. 12

D. 11.5

Your answer is incorrect.

The correct answer is: 12

**Question 5**

Not answered

Marked out of 1.00

What does 20 represent in the equation above?

Select one:

A. Ibrahim's tank can hold 20 gallons of gas.

B. Ibrahim's car can travel 20 kilometers on 12 gallons of gas

C. Ibrahim uses 20 gallons of gas per kilometer.

D. Ibrahim's car can travel 20 kilometers to the gallon.

Your answer is incorrect.

The correct answer is:
Ibrahim's car can travel 20 kilometers to the gallon.

**Question 6**

Not answered

Marked out of 1.00

In June 2021, Peter wants to manage his time carefully to know the number of interviews, T, he can take. For each interview that he takes, he expects to spend 3.5 hours working on the candidate's application. In addition to this, he expects to spend an additional 5 hours to schedule interviews for all candidate. If Peter has 80 hours available in June, how many interviews can he take?

Select one:

- A. 21
- B. 24
- C. 9
- D. 23

Your answer is incorrect.

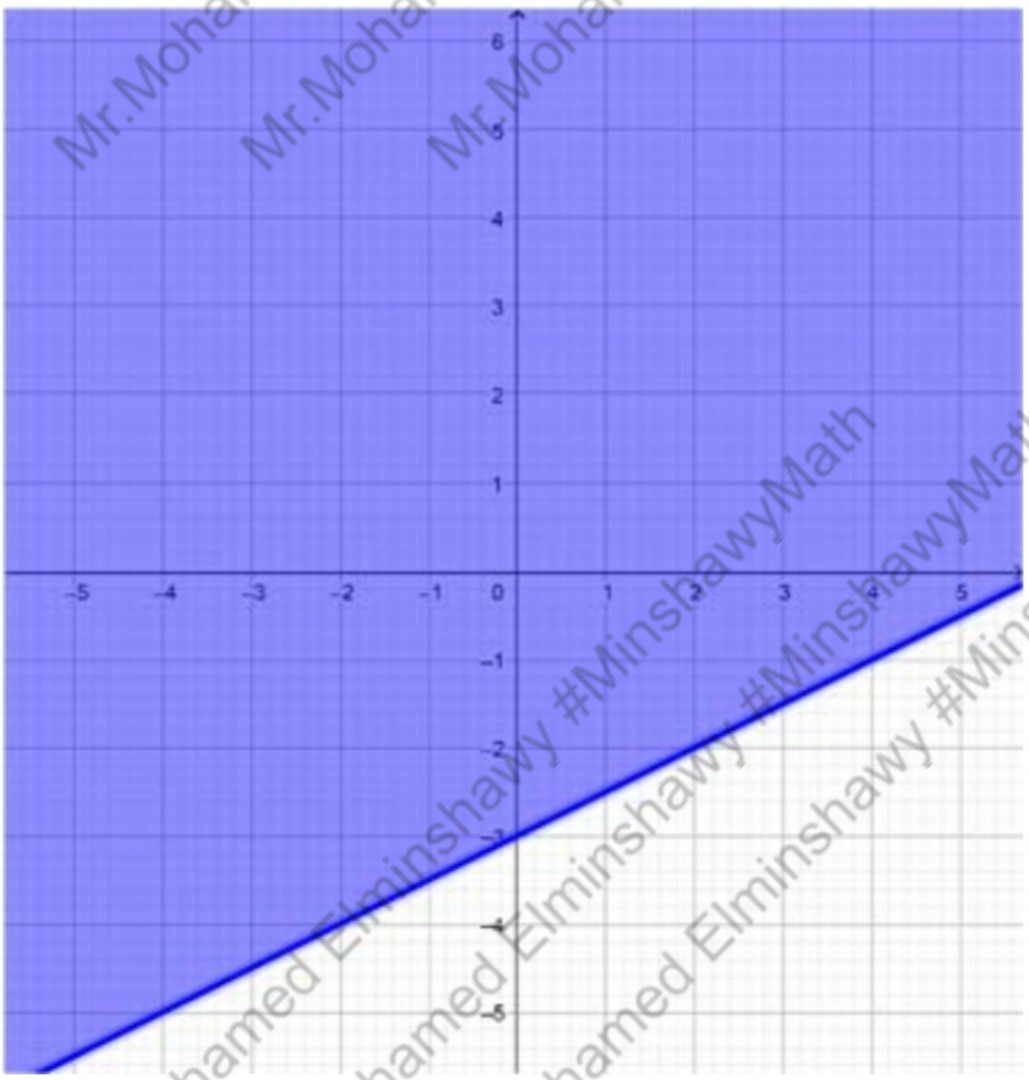
The correct answers are: 21, 24

**Question 7**

Not answered

Marked out of 1.00

Which of the inequalities below represents the solution of the shaded region in the figure below?



Select one:

A. -y≤ -0.5x-3

B. - y ≤ -0.5x+3

C. y≥-0.5x-3

D. -y≤0.5x+3

Your answer is incorrect.

The correct answer is:
- y ≤ -0.5x+3

**Question 8**

Not answered

Marked out of 1.00

**Which of the following is the simplest form of the expression** $\frac{24ab^4c^2}{27a^3b^4c}$

Select one:

a. $\frac{8a^2c}{9}$

b. $\frac{8c}{9a^2}$

c. $\frac{8b^8c}{9a^2}$

d. $\frac{9a^2}{8c}$

Your answer is incorrect.

The correct answer is:
$\frac{8c}{9a^2}$

**Question 9**

Not answered

Marked out of 1.00

A factor of the polynomial $7x^2 + 14x - 21$ is:

Select one:

A. x-3

B. 7x + 3

C. 7x-7

D. 7x + 7

Your answer is incorrect.

The correct answer is: 7x-7

**Question 10**

Not answered

Marked out of 1.00

For what values of a and b will the equation $x^2 + ax = b$ have the solutions 1 and -1?

Select one:

A. a = 0; b = 1

B. a = 0; b = -1

C. a = 1; b = 0

D. a = 1; b = 1

Your answer is incorrect.

The correct answer is: a = 0; b = 1

**Question 11**

Not answered

Marked out of 1.00

The graphs of f (x) = ||x| - 2| and g(x) = 1 in the same system will have:

Select one:

A. 2 points of intersection

B. 4 points of intersection

C. 0 points of intersection

D. 1 point of intersection

Your answer is incorrect.

The correct answer is: 4 points of intersection

**Question 12**

Not answered

Marked out of 1.00

**12.** What is the coefficient of $x^3$ when $\frac{2}{5}x^3 + 2x^2 - 3$ is multiplied by $5x + \frac{2}{5}$?

**A.** 10

**B.** $\frac{4}{25}$

**C.** $\frac{54}{5}$

**D.** $\frac{254}{25}$

Select one:

- A
- B
- C
- D

Your answer is incorrect.

The correct answer is: D

**Question 13**

Not answered

Marked out of 1.00

$$\left(\frac{2x-3}{x-3}\right)^2 \div \frac{3}{2x-6}$$

**13.** Which of the following is equivalent to the expression above, given that $x \neq 3$?

**A.** $\frac{2(2x-3)^2}{3(x-3)}$

**B.** $\frac{2(x-3)}{3(2x-3)^2}$

**C.** $\frac{2(2x-3)}{3(x-3)^2}$

**D.** $\frac{2(2x-3)^2}{3}$

Select one:

- A
- B
- C
- D

Your answer is incorrect.

The correct answer is: A

**Question 14**

Not answered

Marked out of 1.00

The graph of an exponential function K in the xy-plane, where y = K (X) has a y-intercept of h, where h is a negative constant number. Which of the following could be function K?

Select one:

A. $K(X) = h(4)^X$

B. $K(X) = -h(x)^3$

C. $K(X) = -\sqrt{13hx}$

D. $K(x) = 2$ ❤ $^x$

Your answer is incorrect.

The correct answer is: $K(X) = h(4)^X$

**Question 15**

Not answered

Marked out of 1.00

If C is a circle of center (2,0) and radius = 2, then which of the following points is inside the circle?

Select one:

A. (1,3)

B. (2,-2)

C. (3,-1)

D. (4,0)

Your answer is incorrect.

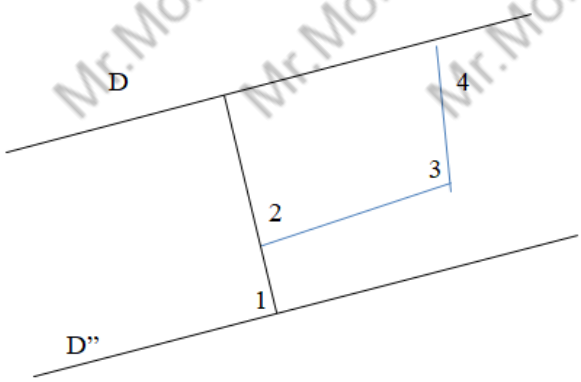
The correct answer is: (3,-1)

**Question 16**

Not answered

Marked out of 1.00

In the figure below, d and d' are parallel lines, \angle2 = 103, \angle3 = 107 and \angle4 = 97. What is the measure of \angle1? (The figure is not drawn to scale)




Answer:

The correct answer is: 67

**Question 17**

Not answered

Marked out of 1.00

$$3x - 1 = \sqrt{3k^2 - x}$$

**17.** If $k > 0$ and $x = 2$ in the equation above, what is the value of $k$? **(Grid in)**

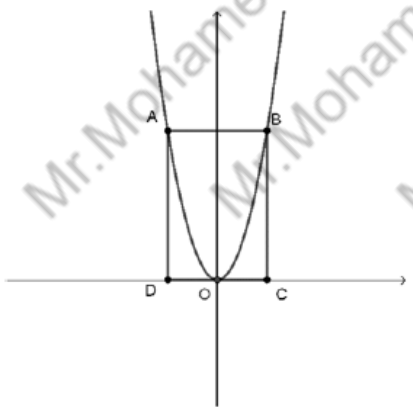
Answer:

The correct answer is: 3

**Question 18**

Not answered

Marked out of 1.00




**18.** In the figure above, ABCD is a square and points A, B and O lie on the parabola of equation $y = \frac{1}{k}x^2$, where $k$ is a constant number. If the area of ABCD is 16 $cm^2$, what is the value of $k$? (The figure is not drawn to scale). **(Grid in)**

Answer:

The correct answer is: 1

**Question 19**

Not answered

Marked out of 1.00

| x | y |
|---|---|
| -4 | -9 |
| 0 | -1 |
| 2 | 3 |
| p | 9 |

If the values in the table above represent a linear relationship between x and y, what is the value of p?

Answer:

The correct answer is: 5

**Question 20**

Not answered

Marked out of 1.00

**20.** How many asymptotes does the curve of the function $f$ defined by $f(x) = \frac{x^2 - 3}{9 - x^2}$ admit?

Answer: ✕

The correct answer is: 3

| | |
|---|---|
| **Started on** | Friday, 12 January 2024, 5:21 PM |
| **State** | Finished |
| **Completed on** | Friday, 12 January 2024, 5:21 PM |
| **Time taken** | 8 secs |
| **Grade** | **0.00** out of 38.00 (**0**%) |

**Question 1**

Not answered

Marked out of 1.00

If x is a positive number less than 1, then which of the following is true ?

I.$x^2<x$

II.$x^3>x$

III.$x+1>1$

Select one:

a. III only

b. I and III

c. I and II

d. II and III

Your answer is incorrect.

The correct answer is: I and III

**Question 2**

Not answered

Marked out of 1.00

In a school competition, students have to prepare sketches of length x minutes. The minimum length is 2 minutes and the maximum length is 3 minutes.

Which inequality represents the given situation?

Select one:

a. $|x-3|<2$

b. $|x-2.5|\leq 0.5$

c. $|x-0.5|\leq 2.5$

d. $|x-2|<3$

Your answer is incorrect.

The correct answer is: $|x-2.5|\leq 0.5$

**Question 3**

Not answered

Marked out of 1.00

Which of the equations below could not be a line perpendicular to line (d) given below?

(d): x + 2y + 2 = 0

Select one:

- a. 6x - 3y = 0
- b. 2x + y + 1 =0
- c. 4x - 2y - 2 = 0
- d. 2x - y + 3 = 0

Your answer is incorrect.

The correct answer is: 2x + y + 1 =0

**Question 4**

Not answered

Marked out of 1.00

Street food tickets at the park cost 10 EGP for children and 15 EGP for adults. On a certain day, 1,500 tickets were bought for a total of 19,750 EGP.

What is the amount of money made from the tickets for adults only on that day?

Select one:

- A. 5,490 EGP
- B. 7,500 EGP
- C. 12,000 EGP
- D. 14,250 EGP

Your answer is incorrect.

The correct answer is: 14,250 EGP

**Question 5**

Not answered

Marked out of 1.00

What is the solution to the equation below ?

$2(\frac{x}{3}-\frac{1}{4})-2x=\frac{2}{5}$

Select one:

- a. x=\( \frac{-9}{28} \)
- b. x=\( \frac{-27}{40} \)
- c. x=\( \frac{3}{40} \)
- d. x=\( \frac{-27}{10} \)

Your answer is incorrect.

The correct answer is: x=\( \frac{-27}{10} \)

**Question 6**

Not answered

Marked out of 1.00

If the straight line (d) of equation kx + 3y - 1 = 0 passes through the point (-0.5, 1), what is the slope of (d)?

Select one:

- a. \( \frac{-4}{3} \)
- b. \( \frac{-3}{4} \)
- c. 4
- d. \( \frac{4}{3} \)

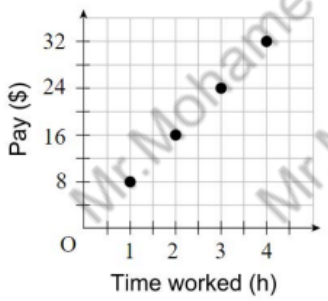
Your answer is incorrect.

The correct answer is: \( \frac{-4}{3} \)

**Question 7**

Not answered

Marked out of 1.00




7. The graph above shows the amount of money earned by Dana who works at a restaurant based on the number of hours she works every day.

   What is the unit rate of Dana's working hour?

Select one:

a. $8/h

b. $1/h

c. 1 h/$

d. $4/h

Your answer is incorrect.

The correct answer is: $8/h

**Question 8**

Not answered

Marked out of 1.00

If ax + by = a - b and bx - ay = a + b then:

Select one:

a. x = y = -1

b. x = 1 and y = -1

c. x = -1 and y = 1

d. x = y = 1

Your answer is incorrect.

The correct answer is: x = 1 and y = -1

**Question 9**

Not answered

Marked out of 1.00

On a math test of 30 questions, Mona got 75% of the 12 geometry questions correct, 60% of the 10 algebra questions correct and 25% of the 8 trigonometry questions wrong. what percentage of all the questions did Mona get correct ?

Select one:

- a. 70%
- b. 160%
- c. 56.6%
- d. 210%

Your answer is incorrect.

The correct answer is: 70%

**Question 10**

Not answered

Marked out of 1.00

The price of the COVID-19 vaccine in the black market was first increased by 15% and then increased by 10% after two weeks What is the percent increase in the price of the vaccine ?

Select one:

- a. 25%
- b. 126.5%
- c. 26.5%
- d. 1.265%

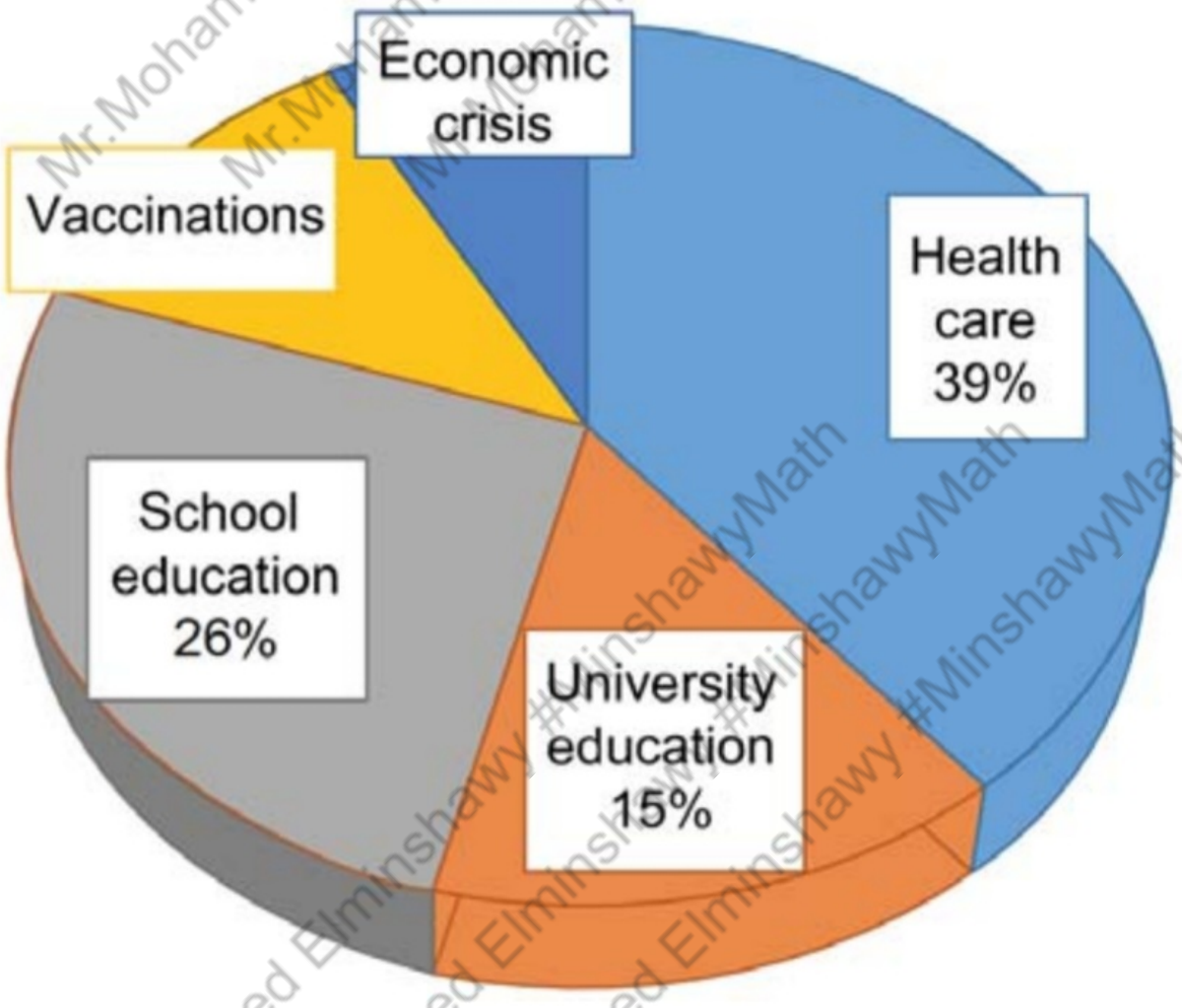
Your answer is incorrect.

The correct answer is: 26.5%

**Question 11**

Not answered

Marked out of 1.00




**Alice surveyed all the students in the secondary department at her school to see their most important concem through the pandemie situation of corona virun. The results are shown in the figure below. If the ratio of student who answered Vaccinations to those who answered Economia OSIS was 3.2. what percentage of the students answered "Vaccinations" ?**

Select one:

- A. **10%**
- B. **12%**
- C. **8%**
- D. **18%**

Your answer is incorrect.

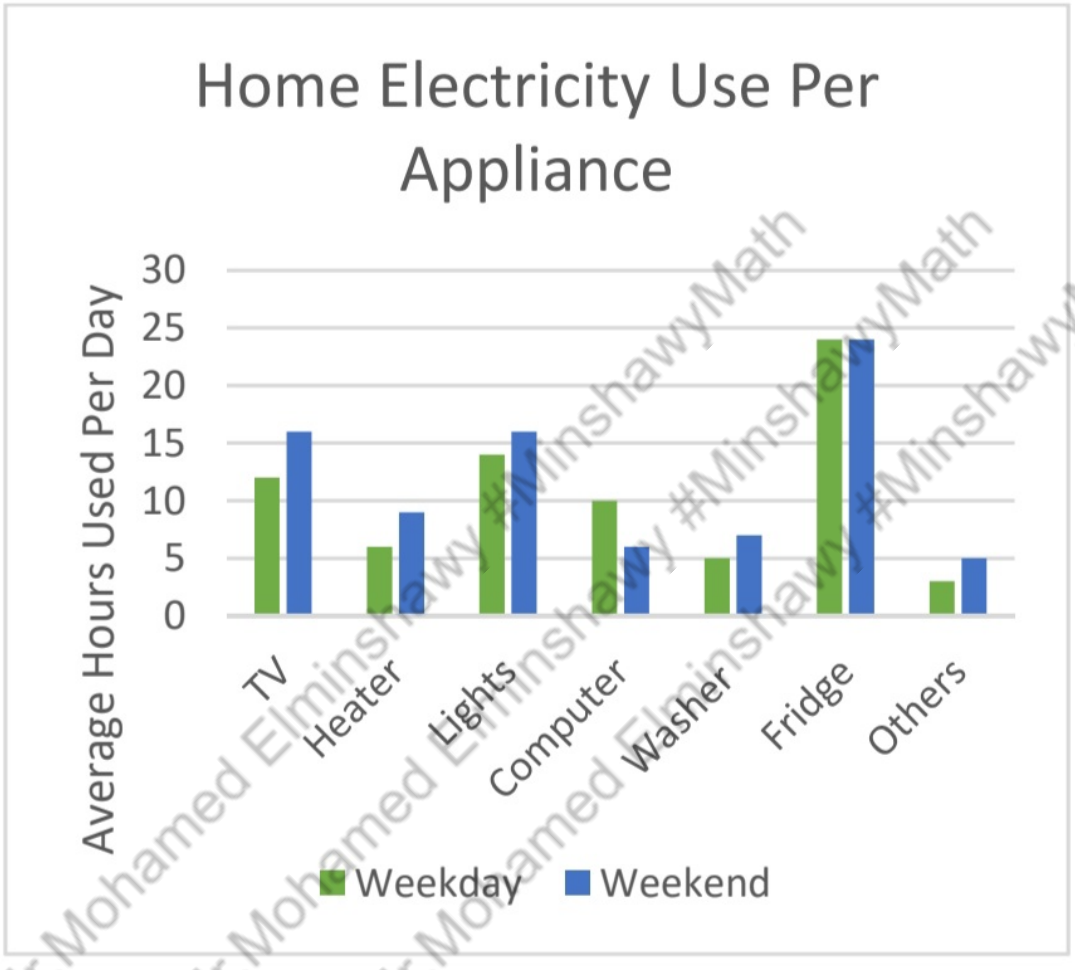
The correct answer is: **12%**

**Question 12**

Not answered

Marked out of 1.00

**Questions 12, 13, 14 and 15 refer to the same information.**




**12.** What information does the graph above provide?

Select one:

- a. Average kilowatts used by each appliance in a day
- b. Average hours used in a day by each appliance
- c. Hours appliance used per day
- d. Total electricity per day

Your answer is incorrect.

The correct answer is: Average hours used in a day by each appliance

**Question 13**

Not answered

Marked out of 1.00

Which appliance has more usage on weekdays than on weekends?

Select one:

- a. Lights
- b. Computer
- c. Fridge
- d. TV

Your answer is incorrect.

The correct answer is: Computer

**Question 14**

Not answered

Marked out of 1.00

How many hours a day, on average, is the washer used on weekdays?

Select one:

- a. 7
- b. 6
- c. 12
- d. 5

Your answer is incorrect.

The correct answer is: 5

**Question 15**

Not answered

Marked out of 1.00

Which appliances are used on weekends for an average of at least three hours per day more than on weekdays?

Select one:

- a. TV, computer and washer
- b. Others
- c. lights and washer
- d. TV and heater

Your answer is incorrect.

The correct answer is: TV and heater

**Question 16**

Not answered

Marked out of 1.00

In a bag theta are 14 identical tokens numbered from 0 to 13 A token Is drawn at random. What is the probability to obtain an odd multiple of 3?

Select one:

a. \( \frac{1}{7} \)

b. \( \frac{2}{5} \)

c. \( \frac{2}{13} \)

d. \( \frac{3}{14} \)

Your answer is incorrect.

The correct answer is: \( \frac{1}{7} \)

**Question 17**

Not answered

Marked out of 1.00

How much money would you need to deposit today at 8% annual interest compounded monthly to have $10,000 in the account after 5 years?

Select one:

a. $6,712.10

b. $6,500.5

c. $5,989.3

d. $6,680.13

Your answer is incorrect.

The correct answer is: $6,712.10

**Question 18**

Not answered

Marked out of 1.00

A box contains 7 identical balls, three red, two green and two blue. Three balls are drawn randomly and successively one after the other without replacing the ball in the box. What is the probability to get exactly one ball of each color?

Select one:

a. \( \frac{72}{343} \)

b. \( \frac{12}{35} \)

c. \( \frac{2}{35} \)

d. \( \frac{12}{343} \)

Your answer is incorrect.

The correct answer is: \( \frac{2}{35} \)

**Question 19**

Not answered

Marked out of 1.00

Consider k points on the plane where no three points are collinear. How many straight lines can be drawn using these points ?

Select one:

a. \( \frac{k}{2!} \)

b. \( \frac{k(k-2)}{2} \)

c. k(k-1)

d. \( \frac{k(k-1)}{2} \)

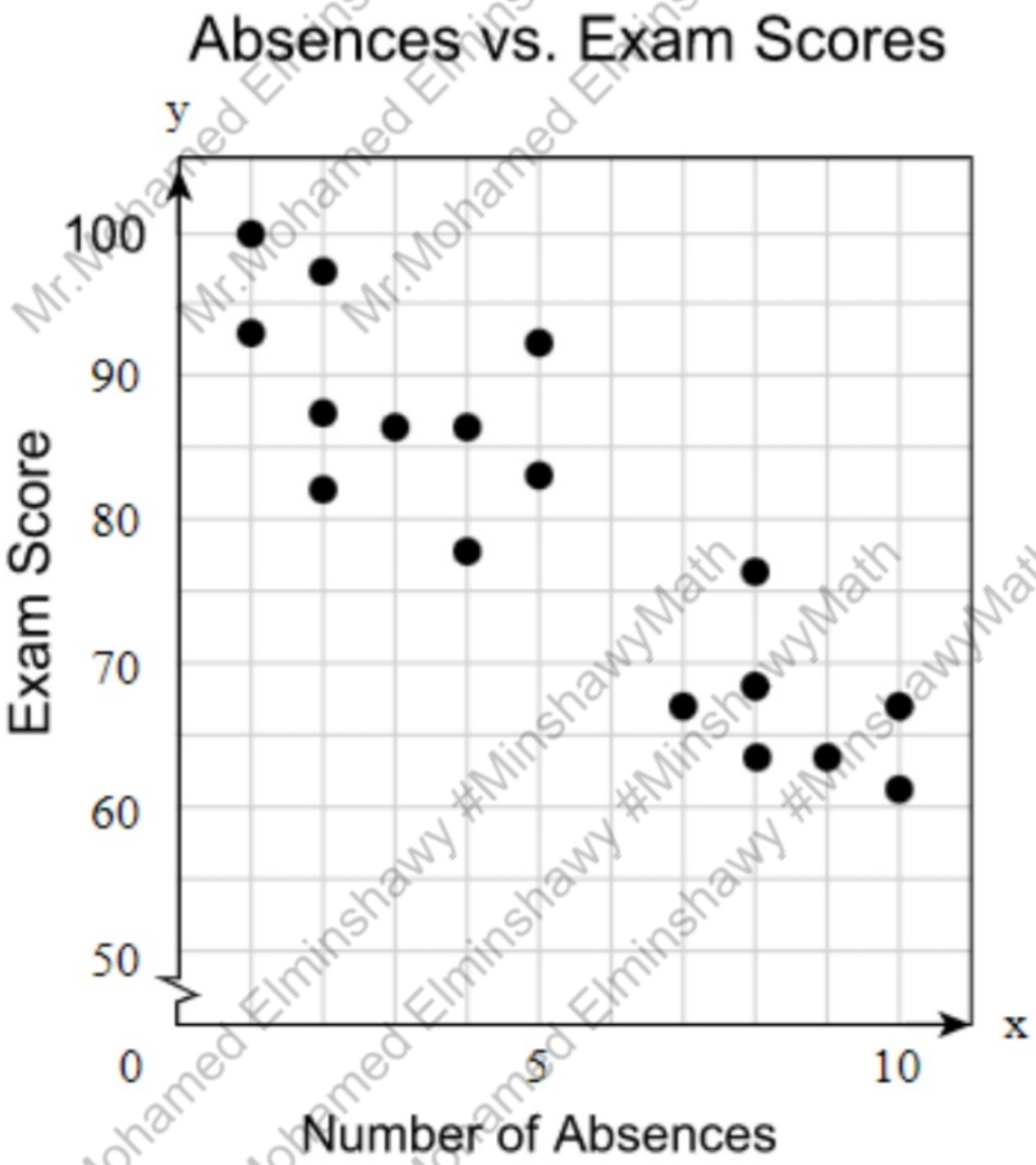
Your answer is incorrect.

The correct answer is: \( \frac{k(k-1)}{2} \)

**Question 20**

Not answered

Marked out of 1.00




**20.** Mrs. Mary made the scatterplot above to show the relationship between the number of absences and a student's final exam score without drawing the line of best fit. Which of the following scores could a student approximately get on the final exam with 6 absences?

Select one:

- A. 70
- B. 87
- C. 65
- D. 76

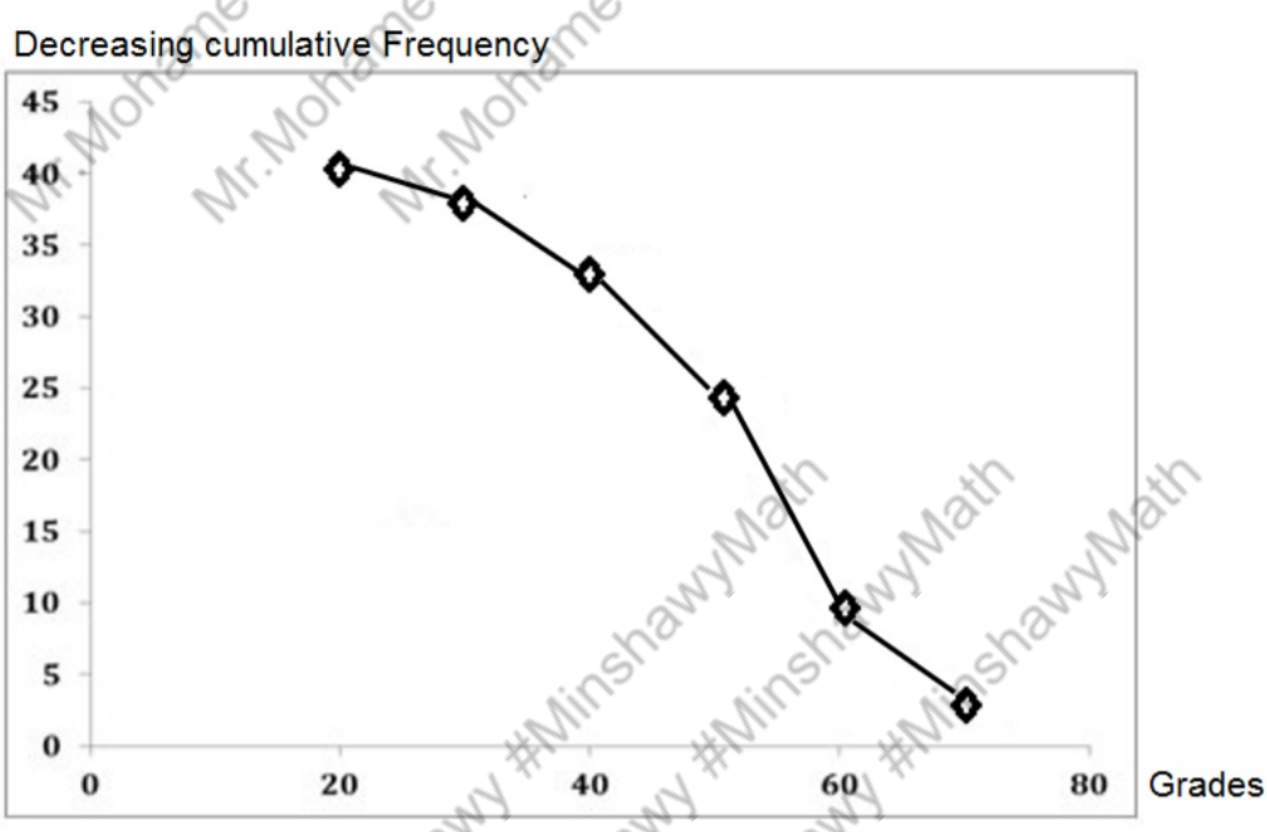
Your answer is incorrect.

The correct answer is: 76

**Question 21**

Not answered

Marked out of 1.00




**21.** The polygon line above represents the grades distribution of a class on a history exam.

What is the mode of the above distribution?

Select one:

- A. 20
- B. 60
- C. 50
- D. 40

Your answer is incorrect.

The correct answer is: 50

**Question 22**

Not answered

Marked out of 1.00

If $3^x.\sqrt[4]{3} = 9^{2x}$, then x=

Select one:

a. $\frac{1}{12}$

b. 4

c. $\frac{4}{3}$

d. $\frac{-7}{4}$

Your answer is incorrect.

The correct answer is: $\frac{1}{12}$

**Question 23**

Not answered

Marked out of 1.00

**23.** The math teacher asked four of her students to draw the function $f(x) = \frac{2}{x-1}$ in the xy-plane and to write only one piece of information from their obtained curves. The table below shows the results.

| | |
|---|---|
| Maya | The curve admits a center of symmetry of coordinates (1,0). |
| Tarek | The curve admits two vertices. |
| Mirna | The curve admits an asymptote of equation $y = 1$. |
| Albert | The range of the function is $\mathbb{R}$. |

Which student could be right?

Select one:

- A. Maya
- B. Tarek
- C. Mirna
- D. Albert

Your answer is incorrect.

The correct answer is: Maya

**Question 24**

Not answered

Marked out of 1.00

**24.** If $A = \dfrac{\sqrt{16x^2y^2}}{\sqrt[3]{-125x^3y^3 + 2xy}}$ and $x > 0, y < 0$ then $A =$

**A.** $\dfrac{-4}{7}$

**B.** $\dfrac{3}{4}$

**C.** $\dfrac{-4}{3}$

**D.** $\dfrac{4}{3}$

Select one:

- a. A
- b. B
- c. C
- d. D

Your answer is incorrect.

The correct answer is: D

**Question 25**

Not answered

Marked out of 1.00

If $f(x)=x^2+3$ and $h(x)=x.f(x)+3x$, what is $h(-1)$ ?

Select one:

- a. -7
- b. 1
- c. -5
- d. -4

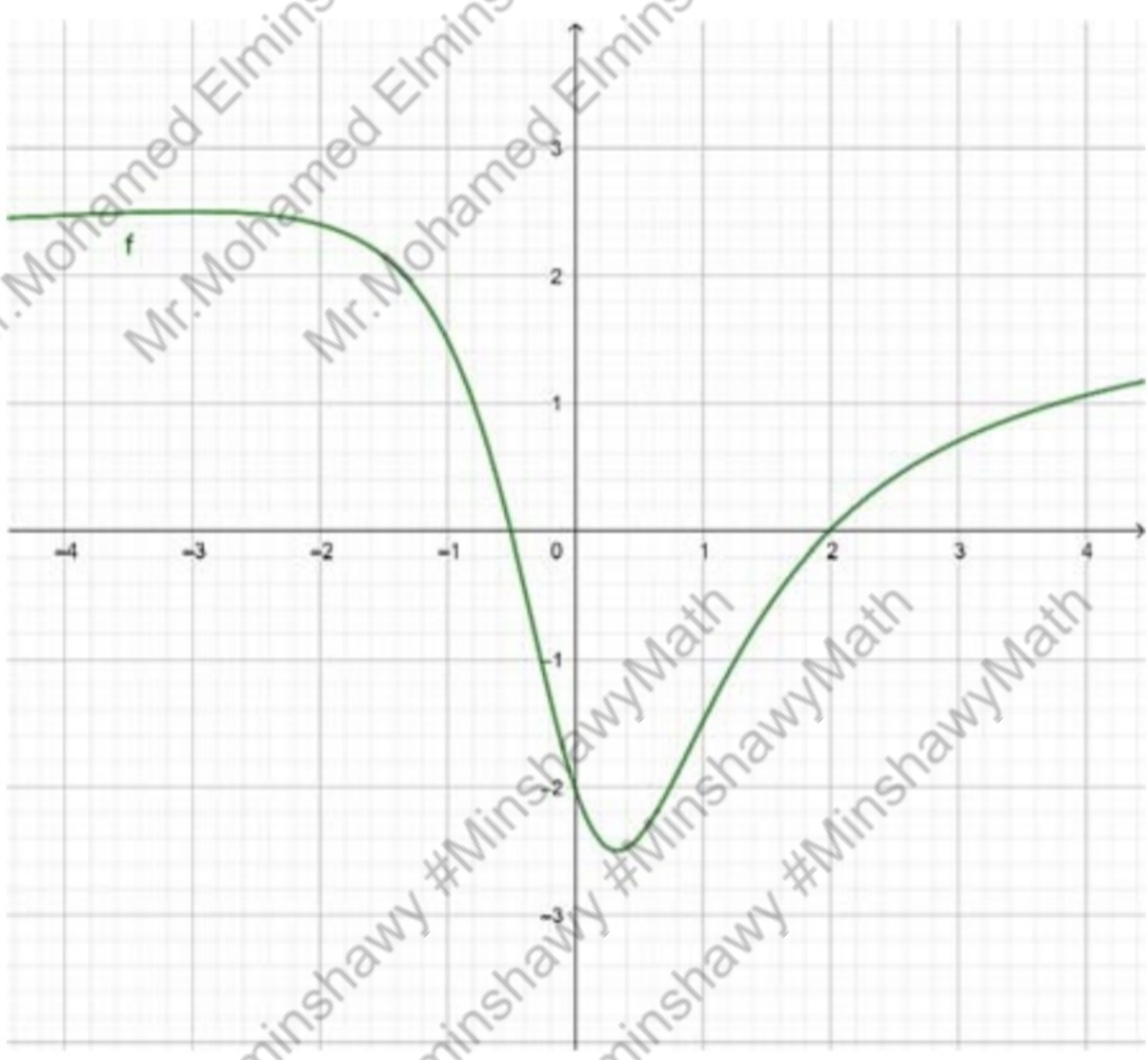
Your answer is incorrect.

The correct answer is: -7

**Question 26**

Not answered

Marked out of 1.00




**26.** The curve above represents the curve of function $f$ defined over $\mathbb{R}$.

What is the solution of $0 \leq f(x) \leq 2$ ?

**A.** $\left[\frac{-4}{3}, -0.5\right] \cup [2, +\infty[$

**B.** $[-2, -1] \cup [0, +\infty[$

**C.** $[-2.5, -0.5]$

**D.** $\left[\frac{-4}{3}, -0.5\right] \cup [-2, +\infty[$

Select one:

- A. **A**
- B. **B**
- C. **C**
- D. **D**

Your answer is incorrect.

The correct answer is: **A**

**Question 27**

Not answered

Marked out of 1.00

Which of the following represents $3^4=81$ in logarithmic form ?

Select one:

- a. $\log_4 81=3$
- b. $\log_{81} 3=4$
- c. $\log_3 81=4$
- d. $\log_3 4=81$

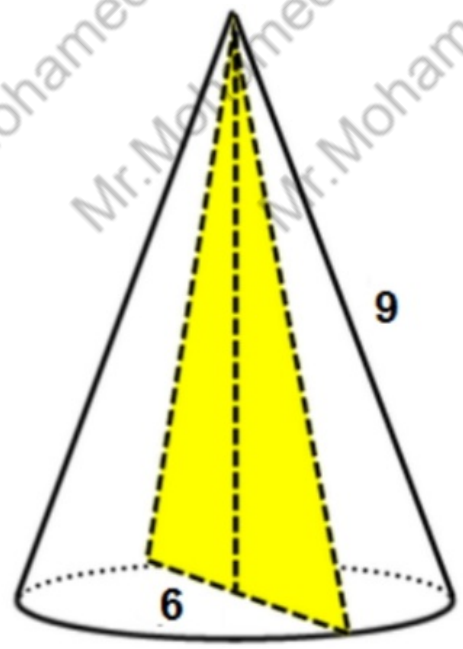
Your answer is incorrect.

The correct answer is: $\log_3 81=4$

**Question 28**

Not answered

Marked out of 1.00




**28.** What is the area of the cross section perpendicular to the base of the right cone with a diameter of 6? (The figure is not drawn to scale)

Select one:

a. 18\( \sqrt{2} \)

b. 6\( \sqrt{2} \)

c. 36\( \sqrt{2} \)

d. 18

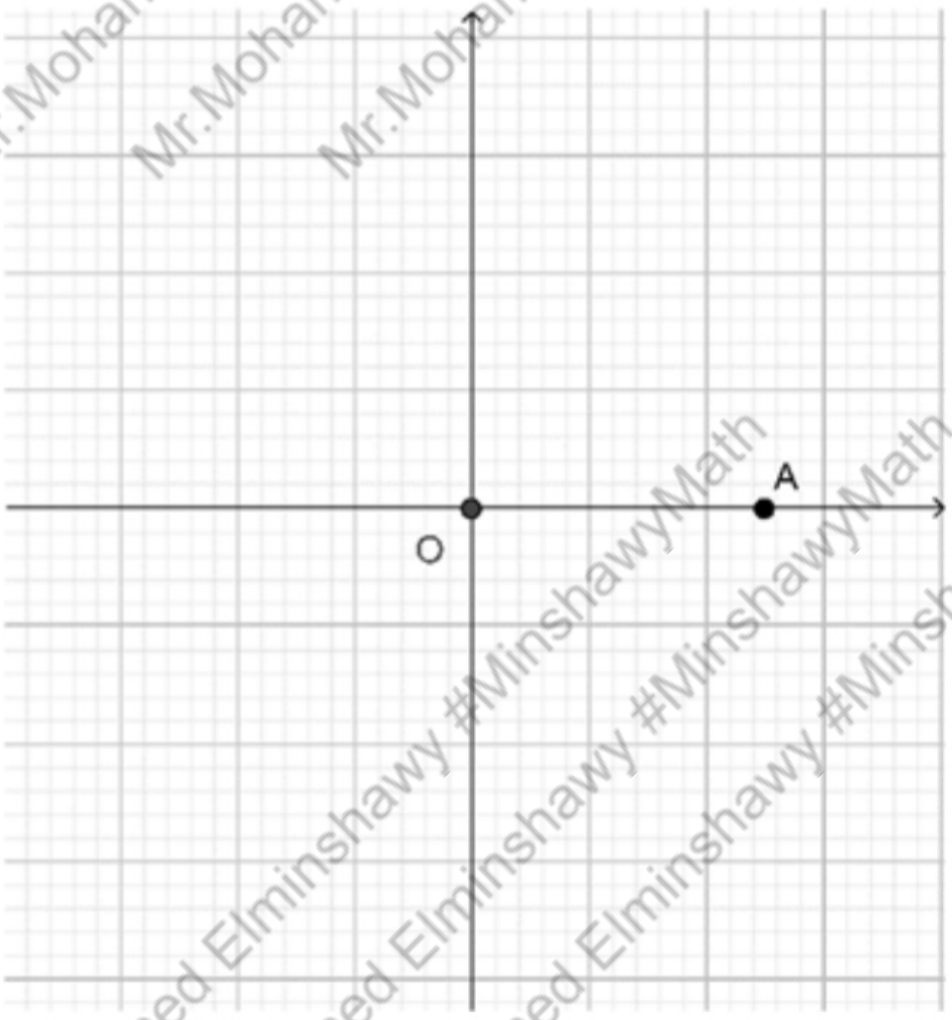
Your answer is incorrect.

The correct answer is: 18\( \sqrt{2} \)

**Question 29**

Not answered

Marked out of 1.00




**29.** In the xy-plane above, if the coordinates of point B are $(-\sqrt{3}, -\sqrt{3})$, what is the measure, in radians, of angle AOB?

Select one:

a. -\( \frac{ \pi }{4} \)

b. \( \frac{ 3\pi }{4} \)

c. \( \frac{4 \pi }{5} \)

d. \( \frac{-3 \pi }{4} \)

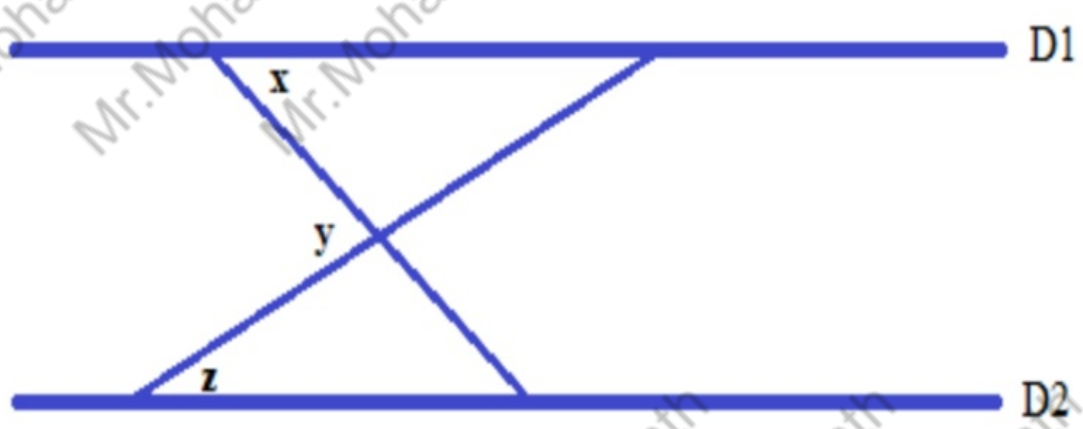
Your answer is incorrect.

The correct answer is: \( \frac{-3 \pi }{4} \)

**Question 30**

Not answered

Marked out of 1.00




**30.** In the figure above, D1 and D2 are two parallel lines.

Which of the following is always true?

Select one:

a. z=x-y

b. z=x

c. x+z+y=180

d. x=y-z

Your answer is incorrect.

The correct answer is: x=y-z

**Question 31**

Not answered

Marked out of 1.00

**If |2x – 3| ≤ 4, what is the greatest possible value of |3x – 2|?**

Answer:

The correct answer is: 8.5

**Question 32**

Not answered

Marked out of 1.00

A father decides to give his son 10 EGP for every math question solved correctly as to encourage him to study mathematics more, but takes back 5 EGP if the solution is wrong. After 30 questions, each has given and received the same amount of money. How many correct questions did the son solve?

Answer:

The correct answer is: 10

**Question 33**

Not answered

Marked out of 1.00

**What is 17% of 36% of 2500?**

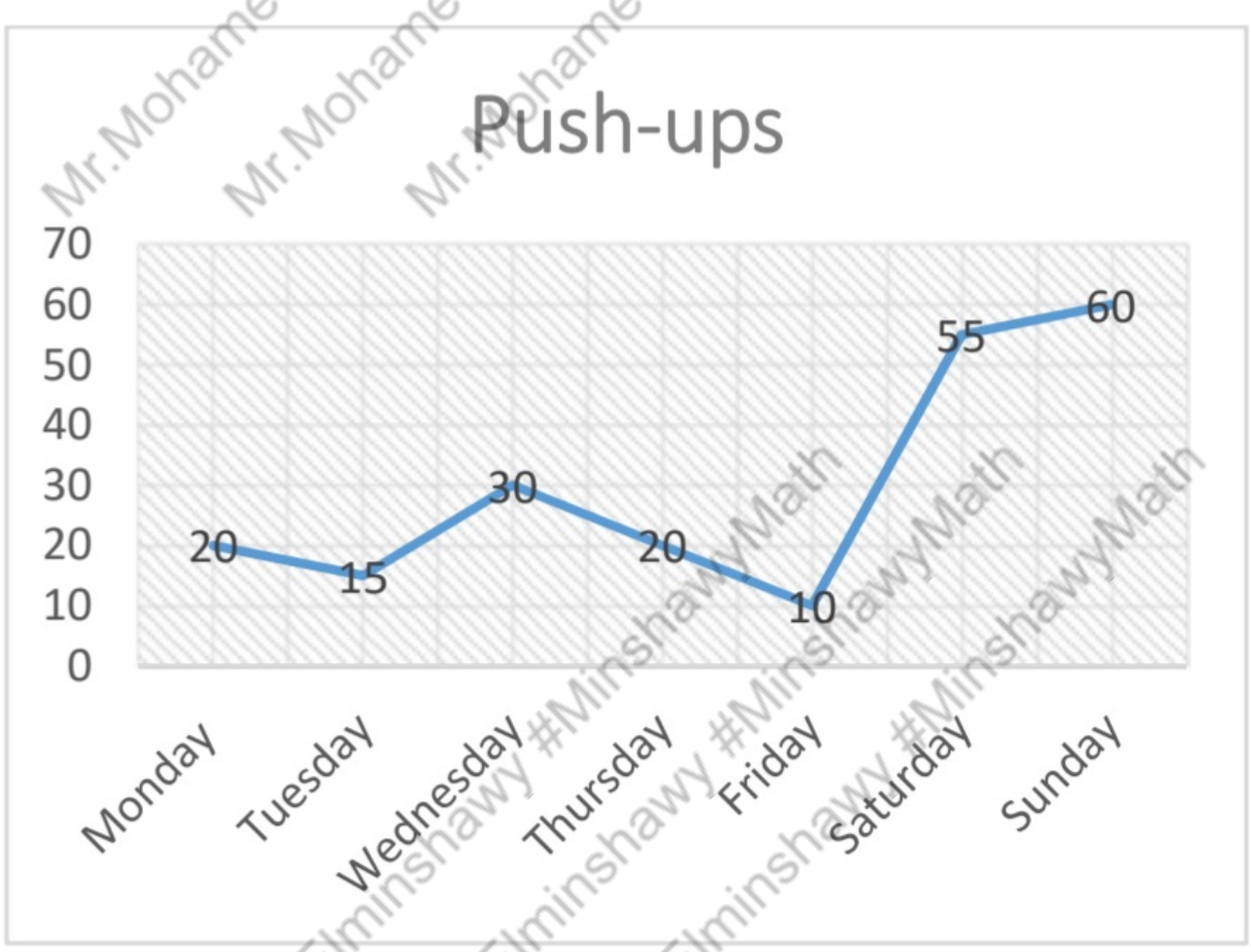
Answer:

The correct answer is: 153

**Question 34**

Not answered

Marked out of 1.00




**34.** The graph above shows the number of push-ups Bob did last week.

What was the average number of push-ups?

Answer:

The correct answer is: 30

**Question 35**

Not answered

Marked out of 1.00

**On Mother's Day, a big store put a freezer and a refrigerator on sale. The owner of the store suggests that:**

**The probability that a person buys a refrigerator is\( \frac{5}{7} \).**

**The probability that a person buys a freezer if he buys a refrigerator is\( \frac{2}{5} \)**

**The probability that a person buys a freezer if he doesn't buy the refrigerator is 5%.**

**What is the probability that the person buys the freezer?**

Answer:

The correct answer is: 3/10

**Question 36**

Not answered

Marked out of 1.00

**In a class of 25 students, the average of the grades of the boys, girls and the class is 12, 14 and 13.2 respectively. How many girls are in this class?**

Answer:

The correct answer is: 15

**Question 37**

Not answered

Marked out of 1.00

How many solutions, in R, does the equation $e^{3x} - 3x - 3 = 0$ admit?

Answer:

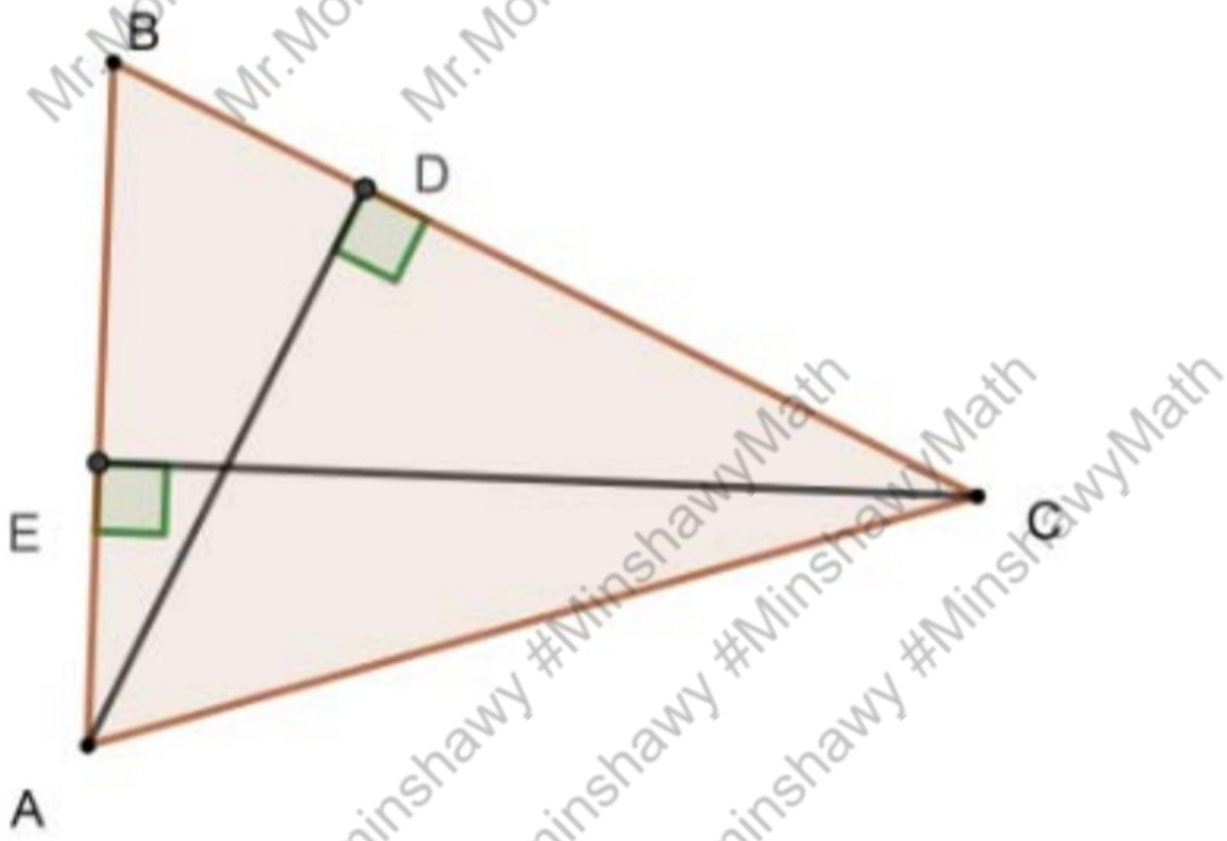
The correct answer is: 2

**Question 38**

Not answered

Marked out of 1.00

In the triangle below, $\overline{AD} \perp \overline{BC}$ and $\overline{CE} \perp \overline{BA}$ such that BD=5, BE=6 and AD=8. What is the length of $\overline{CE}$ ? (The figure is not drawn for scale)




Answer:

The correct answer is: 48/5