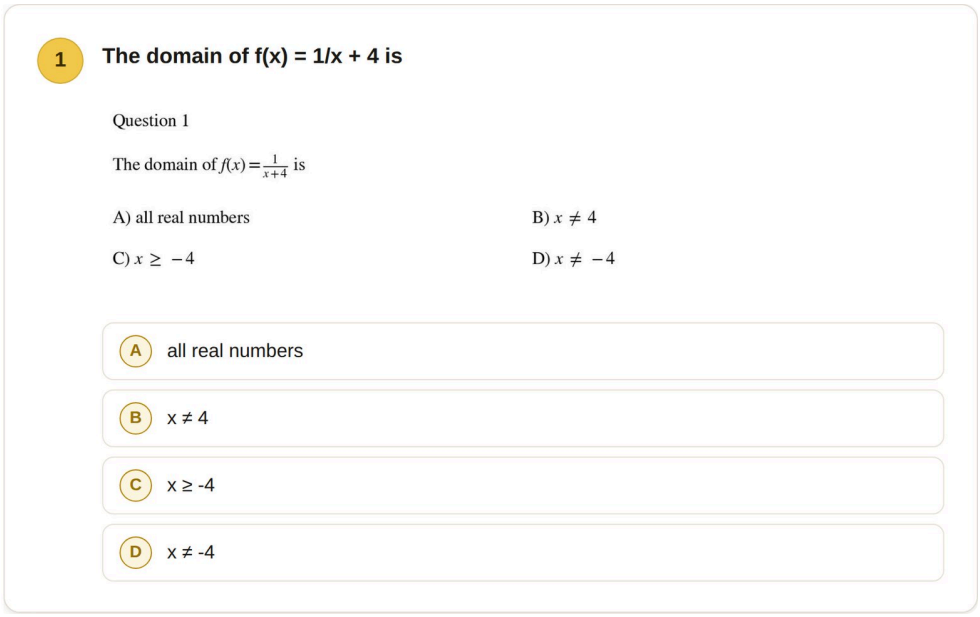
ARIZONA ALGEBRA II · FINAL EXAM · 50 QUESTIONS

# Final Exam — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

**1** **The domain of f(x) = 1/x + 4 is**




- **A** all real numbers
- **B** x ≠ 4
- **C** x ≥ -4
- **D** x ≠ -4

Understand It with Pulse | Flag a mistake

## 2 The product (2x - 1)(x + 4) is


2 The product (2x - 1)(x + 4) is


Question 2

The product $(2x - 1)(x + 4)$ is

A) $2x^2 - 7x - 4$

B) $2x^2 + 9x - 4$

C) $2x^2 + 7x + 4$

D) $2x^2 + 7x - 4$


A 2x² - 7x - 4

B 2x² + 9x - 4

C 2x² + 7x + 4

D 2x² + 7x - 4


A 2x² - 7x - 4

B 2x² + 9x - 4

C 2x² + 7x + 4

D 2x² + 7x - 4

Understand It with Pulse

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3 **The value of $\log_2 32$ is**

3 **The value of $\log_2 32$ is**

Question 3

The value of $\log_2 32$ is

A) 6

B) 5

C) 4

D) 16

A 6

B 5

C 4

D 16

A 6

B 5

C 4

D 16

Understand It with Pulse

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4

## The median of 3, 7, 9, 11, 15 is

4

**The median of 3, 7, 9, 11, 15 is**

Question 4

The median of 3, 7, 9, 11, 15 is

A) 9

B) 7

C) 11

D) 10

A 9

B 7

C 11

D 10

A 9

B 7

C 11

D 10

Understand It with Pulse

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## 5 The range of f(x) = x² - 5 is


5 The range of f(x) = x² - 5 is


Question 5

The range of $f(x) = x^2 - 5$ is

A) $y \leq -5$

B) $y \geq -5$

C) $y > -5$

D) $y \geq 5$


A y ≤ -5

B y ≥ -5

C y > -5

D y ≥ 5


A y ≤ -5

B y ≥ -5

C y > -5

D y ≥ 5

Understand It with Pulse

Flag a mistake

6 **The factored form of x² + 7x + 12 is**

6 **The factored form of x² + 7x + 12 is**

Question 6

The factored form of $x^2 + 7x + 12$ is

A) $(x + 12)(x + 1)$

B) $(x - 3)(x - 4)$

C) $(x + 6)(x + 2)$

D) $(x + 3)(x + 4)$

A (x + 12)(x + 1)

B (x - 3)(x - 4)

C (x + 6)(x + 2)

D (x + 3)(x + 4)

A (x + 12)(x + 1)

B (x - 3)(x - 4)

C (x + 6)(x + 2)

D (x + 3)(x + 4)

Understand It with Pulse

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7 **A quantity starts at 1000 and halves every 2 hours After 6 hours it is**

7 **A quantity starts at 1000 and halves every 2 hours After 6 hours it is**

Question 7

A quantity starts at 1000 and halves every 2 hours After 6 hours it is

A) 500 B) 250

C) 1000 D) 125

A 500

B 250

C 1000

D 125

A 500

B 250

C 1000

D 125

Understand It with Pulse

Flag a mistake

8 **The mean of 10, 20, 30, 40, 50 is**

8 **The mean of 10, 20, 30, 40, 50 is**

Question 8

The mean of 10, 20, 30, 40, 50 is

A) 25 B) 20

C) 30 D) 35

A 25

B 20

C 30

D 35

A 25

B 20

C 30

D 35

Understand It with Pulse

Flag a mistake

## 9 The inverse of f(x) = 4x + 3 is


9 The inverse of f(x) = 4x + 3 is


Question 9

The inverse of $f(x) = 4x + 3$ is

A) $f^{-1}(x)=\frac{x+3}{4}$

B) $f^{-1}(x)=\frac{x-3}{4}$

C) $f^{-1}(x) = 4x - 3$

D) $f^{-1}(x) = \frac{x}{4} + 3$


A $f^{-1}(x) = x + 3/4$

B $f^{-1}(x) = x - 3/4$

C $f^{-1}(x) = 4x - 3$

D $f^{-1}(x) = x/4 + 3$


A $f^{-1}(x) = x + 3/4$

B $f^{-1}(x) = x - 3/4$

C $f^{-1}(x) = 4x - 3$

D $f^{-1}(x) = x/4 + 3$

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Flag a mistake

10 **The factored form of $2x^2 + 8x + 6$ is**

10 **The factored form of $2x^2 + 8x + 6$ is**

Question 10

The factored form of $2x^2 + 8x + 6$ is

A) $(2x + 1)(x + 3)$

B) $2(x - 1)(x - 3)$

C) $(x + 1)(x + 3)$

D) $2(x + 1)(x + 3)$

A (2x + 1)(x + 3)

B 2(x - 1)(x - 3)

C (x + 1)(x + 3)

D 2(x + 1)(x + 3)

A (2x + 1)(x + 3)

B 2(x - 1)(x - 3)

C (x + 1)(x + 3)

D 2(x + 1)(x + 3)

Understand It with Pulse

Flag a mistake

## 11 The expression log(ab) equals


11 The expression log(ab) equals


Question 11

The expression $\log(ab)$ equals

A) $\log a + \log b$

B) $\log a \cdot \log b$

C) $\frac{\log a}{\log b}$

D) $\log a - \log b$

A log a + log b

B log a · log b

C log a/log b

D log a - log b


A log a + log b

B log a · log b

C log a/log b

D log a - log b


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12 **The probability of two heads in two fair coin flips is**

12 **The probability of two heads in two fair coin flips is**

Question 12

The probability of two heads in two fair coin flips is

A) $\frac{1}{3}$ B) $\frac{3}{4}$

C) $\frac{1}{2}$ D) $\frac{1}{4}$

A 1/3

B 3/4

C 1/2

D 1/4

A 1/3

B 3/4

C 1/2

D 1/4

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Flag a mistake

## 13 The function f(x) = x³ is


13 The function f(x) = x³ is


Question 13

The function $f(x) = x^3$ is

A) neither even nor odd

B) both even and odd

C) even

D) odd


A neither even nor odd

B both even and odd

C even

D odd


A neither even nor odd

B both even and odd

C even

D odd

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14 **Let P(x) = x³ + x² - 4. The value of P(-2) is**

14 **Let P(x) = x³ + x² - 4. The value of P(-2) is**

Question 14

Let $P(x) = x^3 + x^2 - 4$. The value of $P(-2)$ is

A) 8 B) −4

C) 0 D) −8

A 8
B -4
C 0
D -8

A 8

B -4

C 0

D -8

Understand It with Pulse | Flag a mistake

15 **The solution of $2^{x+1} = 32$ is**

15 **The solution of $2^{x+1} = 32$ is**

Question 15

The solution of $2^{x+1} = 32$ is

A) $x = 5$

B) $x = 3$

C) $x = 4$

D) $x = 6$

A x = 5

B x = 3

C x = 4

D x = 6

A x = 5

B x = 3

C x = 4

D x = 6

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Flag a mistake

16 **A bag has 3 red balls and 7 blue balls The probability of drawing a red ball is**

16 **A bag has 3 red balls and 7 blue balls The probability of drawing a red ball is**

Question 16

A bag has 3 red balls and 7 blue balls The probability of drawing a red ball is

A) $\frac{3}{10}$ B) $\frac{1}{3}$

C) $\frac{3}{7}$ D) $\frac{7}{10}$

A 3/10

B 1/3

C 3/7

D 7/10

A 3/10

B 1/3

C 3/7

D 7/10

Understand It with Pulse

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17 **Which statement about the relation {(2, 1), (3, 2), (2, 4)} is true?**

17 **Which statement about the relation {(2, 1), (3, 2), (2, 4)} is true?**

Question 17

Which statement about the relation {(2, 1), (3, 2), (2, 4)} is true?

A) It is a function because it has three pairs

B) It is a function because every output is different

C) It is not a function because 3 has two outputs

D) It is not a function because 2 has two outputs

A It is a function because it has three pairs

B It is a function because every output is different

C It is not a function because 3 has two outputs

D It is not a function because 2 has two outputs

A It is a function because it has three pairs

B It is a function because every output is different

C It is not a function because 3 has two outputs

D It is not a function because 2 has two outputs

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## 18 Simplify x² - 1/x - 1 for x ≠ 1.

18 Simplify x² - 1/x - 1 for x ≠ 1.

Question 18

Simplify $\frac{x^2-1}{x-1}$ for $x \neq 1$.

A) $x^2 + 1$

B) $x + 1$

C) $2x$

D) $x - 1$

A x² + 1

B x + 1

C 2x

D x - 1

A x² + 1

B x + 1

C 2x

D x - 1

Understand It with Pulse

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## 19 The value of cos 60° is

19 The value of cos 60° is

Question 19

The value of cos 60° is

A) $\frac{\sqrt{3}}{2}$ B) $\frac{\sqrt{2}}{2}$

C) 0 D) $\frac{1}{2}$

A √3/2

B √2/2

C 0

D 1/2

A $\sqrt{3}/2$

B $\sqrt{2}/2$

C 0

D 1/2

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20

## A correlation of -0.85 means that as one variable increases, the other variable most often

20

**A correlation of -0.85 means that as one variable increases, the other variable most often**

Question 20

A correlation of $-0.85$ means that as one variable increases, the other variable most often

A) decreases

B) disappears

C) stays the same

D) increases

A decreases

B disappears

C stays the same

D increases

A decreases

B disappears

C stays the same

D increases

Understand It with Pulse

Flag a mistake

21 **A linear function passes through (2, 3) and (5, 12). Its slope is**

21 **A linear function passes through (2, 3) and (5, 12). Its slope is**

Question 21

A linear function passes through (2, 3) and (5, 12). Its slope is

A) 2 B) 3

C) 9 D) $\frac{1}{3}$

A 2

B 3

C 9

D 1/3

A 2

B 3

C 9

D 1/3

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Flag a mistake

## 22 The discriminant of x² + 6x + 9 is 0. The equation has


22 The discriminant of x² + 6x + 9 is 0. The equation has


Question 22

The discriminant of $x^2 + 6x + 9$ is 0. The equation has

A) no roots

B) no real roots

C) one repeated real root

D) two distinct real roots


A no roots

B no real roots

C one repeated real root

D two distinct real roots


A no roots

B no real roots

C one repeated real root

D two distinct real roots

Understand It with Pulse

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23 **In a right triangle the side adjacent to an angle is 4 and the hypotenuse is 5. The cosine of the angle is**

23 **In a right triangle the side adjacent to an angle is 4 and the hypotenuse is 5. The cosine of the angle is**

Question 23

In a right triangle the side adjacent to an angle is 4 and the hypotenuse is 5. The cosine of the angle is

A) $\frac{3}{5}$ B) $\frac{4}{3}$

C) $\frac{4}{5}$ D) $\frac{5}{4}$

A 3/5
B 4/3
C 4/5
D 5/4

A 3/5

B 4/3

C 4/5

D 5/4

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## 24 The expected number of heads in 20 fair coin flips is


24 The expected number of heads in 20 fair coin flips is

Question 24

The expected number of heads in 20 fair coin flips is

A) 15 B) 20

C) 10 D) 5

A 15

B 20

C 10

D 5


A 15

B 20

C 10

D 5

Understand It with Pulse | Flag a mistake

## 25 If f(x) = x² + 4, then the positive solution of f(x) = 20 is

25 If f(x) = x² + 4, then the positive solution of f(x) = 20 is

Question 25

If $f(x) = x^2 + 4$, then the positive solution of $f(x) = 20$ is

ANSWER

Understand It with Pulse | Flag a mistake

## 26 Let P(x) = 2x³ - x + 4. The value of P(2) is

26 Let P(x) = 2x³ - x + 4. The value of P(2) is

Question 26

Let $P(x) = 2x^3 - x + 4$. The value of $P(2)$ is

ANSWER

Understand It with Pulse | Flag a mistake

27 **The value of cos 180° is**

27 **The value of cos 180° is**

Question 27

The value of cos 180° is

A) −1

B) $\frac{1}{2}$

C) 1

D) 0

A -1

B 1/2

C 1

D 0

A -1

B 1/2

C 1

D 0

Understand It with Pulse

Flag a mistake

28 **If the first quartile is 20 and the third quartile is 45 the interquartile range is**

28 **If the first quartile is 20 and the third quartile is 45 the interquartile range is**

Question 28

If the first quartile is 20 and the third quartile is 45 the interquartile range is

A) 65 B) 20

C) 25 D) 45

A 65

B 20

C 25

D 45

A 65

B 20

C 25

D 45

Understand It with Pulse

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**29** **The domain of f(x) = $\sqrt{2x - 6}$ is**

**29** **The domain of f(x) = $\sqrt{2x - 6}$ is**

Question 29

The domain of $f(x) = \sqrt{2x - 6}$ is

A) all real numbers

B) $x > 3$

C) $x \geq 3$

D) $x < 3$

A all real numbers

B x > 3

C x ≥ 3

D x < 3

A all real numbers

B x > 3

C x ≥ 3

D x < 3

Understand It with Pulse

Flag a mistake

30 **The horizontal asymptote of y = 2x² + 1/x² - 3 is**

30 **The horizontal asymptote of y = 2x² + 1/x² - 3 is**

Question 30

The horizontal asymptote of $y=\frac{2x^2+1}{x^2-3}$ is

A) $y = -3$

B) $y = 1$

C) $y = 0$

D) $y = 2$

A y = -3

B y = 1

C y = 0

D y = 2

A y = -3

B y = 1

C y = 0

D y = 2

Understand It with Pulse

Flag a mistake

## 31 The value of $3^3$ is


31 The value of $3^3$ is

Question 31

The value of $3^3$ is

A) 27

B) 18

C) 81

D) 9

A 27

B 18

C 81

D 9


A 27

B 18

C 81

D 9

Understand It with Pulse

Flag a mistake

32 **The mean of 2, 4, 6 is**

32 **The mean of 2, 4, 6 is**

Question 32

The mean of 2, 4, 6 is

A) 12

B) 4

C) 6

D) 3

A 12

B 4

C 6

D 3

A 12

B 4

C 6

D 3

Understand It with Pulse

Flag a mistake

## 33 If h(x) = x² + 4x - 3, then h(-3) is

33 If h(x) = x² + 4x - 3, then h(-3) is

Question 33

If $h(x) = x^2 + 4x - 3$, then $h(-3)$ is

A) −6

B) 6

C) 0

D) 12

A -6

B 6

C 0

D 12

A -6

B 6

C 0

D 12

Understand It with Pulse

Flag a mistake

## 34 The square (3x + 2)² is


34 The square (3x + 2)² is


Question 34

The square $(3x + 2)^2$ is

A) $9x^2 - 12x + 4$

B) $9x^2 + 12x + 4$

C) $3x^2 + 12x + 4$

D) $9x^2 + 4$


A 9x² - 12x + 4

B 9x² + 12x + 4

C 3x² + 12x + 4

D 9x² + 4


A 9x² - 12x + 4

B 9x² + 12x + 4

C 3x² + 12x + 4

D 9x² + 4

Understand It with Pulse

Flag a mistake

## 35 The solution of $4^x = 64$ is


35 The solution of $4^x = 64$ is


Question 35

The solution of $4^x = 64$ is

A) $x = 3$

B) $x = 4$

C) $x = 2$

D) $x = 16$


A x = 3

B x = 4

C x = 2

D x = 16


A x = 3

B x = 4

C x = 2

D x = 16

Understand It with Pulse

Flag a mistake

36 **The mode of 4, 4, 9, 9, 9 is**

36 **The mode of 4, 4, 9, 9, 9 is**

Question 36

The mode of 4, 4, 9, 9, 9 is

A) 9

B) 4

C) 13

D) 2

A 9

B 4

C 13

D 2

A 9

B 4

C 13

D 2

Understand It with Pulse

Flag a mistake

37 **The vertex of $y = (x + 5)^2 - 1$ is**

37 **The vertex of $y = (x + 5)^2 - 1$ is**

Question 37

The vertex of $y = (x + 5)^2 - 1$ is

A) $(5, -1)$

B) $(-5, 1)$

C) $(-5, -1)$

D) $(5, 1)$

A (5, -1)

B (-5, 1)

C (-5, -1)

D (5, 1)

A (5, -1)

B (-5, 1)

C (-5, -1)

D (5, 1)

Understand It with Pulse

Flag a mistake

## 38 The degree of $5x^3 + 2x - 1$ is


38 The degree of $5x^3 + 2x - 1$ is


Question 38

The degree of $5x^3 + 2x - 1$ is

A) 3

B) 2

C) 5

D) 1


A 3

B 2

C 5

D 1


A 3

B 2

C 5

D 1

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## 39 The value of $\log_2 16 - \log_2 4$ is


39 The value of $\log_2 16 - \log_2 4$ is

Question 39

The value of $\log_2 16 - \log_2 4$ is

A) 4

B) 2

C) 64

D) 12

A 4

B 2

C 64

D 12


A 4

B 2

C 64

D 12

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Flag a mistake

40

## The number of ways to choose 2 items from 6 is

40

**The number of ways to choose 2 items from 6 is**

Question 40

The number of ways to choose 2 items from 6 is

A) 15

B) 12

C) 6

D) 30

A 15

B 12

C 6

D 30

A 15

B 12

C 6

D 30

Understand It with Pulse

Flag a mistake

41 **Given f(x) = x + 5 and g(x) = 2x - 1, the value of (f ° g)(3) is**

41 **Given f(x) = x + 5 and g(x) = 2x - 1, the value of (f ° g)(3) is**

Question 41

Given $f(x) = x + 5$ and $g(x) = 2x - 1$, the value of $(f \circ g)(3)$ is

A) 10

B) 11

C) 6

D) 12

A 10

B 11

C 6

D 12

A 10

B 11

C 6

D 12

Understand It with Pulse

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## 42 The vertical asymptote of y = 1/x - 7 is

42 The vertical asymptote of y = 1/x - 7 is

Question 42

The vertical asymptote of $y=\frac{1}{x-7}$ is

A) $x = 1$

B) $x = -1$

C) $x = 7$

D) $x = -7$

A x = 1

B x = -1

C x = 7

D x = -7

A x = 1

B x = -1

C x = 7

D x = -7

Understand It with Pulse

Flag a mistake

43 **In a right triangle with hypotenuse 13, adjacent 5, and opposite 12, the tangent of the angle is**

43 **In a right triangle with hypotenuse 13, adjacent 5, and opposite 12, the tangent of the angle is**

Question 43

In a right triangle with hypotenuse 13, adjacent 5, and opposite 12, the tangent of the angle is

A) $\frac{12}{13}$ B) $\frac{5}{13}$

C) $\frac{12}{5}$ D) $\frac{5}{12}$

A 12/13

B 5/13

C 12/5

D 5/12

A 12/13

B 5/13

C 12/5

D 5/12

Understand It with Pulse

Flag a mistake

## 44 A correlation of 0.08 shows a


44 A correlation of 0.08 shows a

Question 44

A correlation of 0.08 shows a

A) strong positive relationship

B) weak relationship

C) perfect relationship

D) strong negative relationship

A strong positive relationship

B weak relationship

C perfect relationship

D strong negative relationship


A strong positive relationship

B weak relationship

C perfect relationship

D strong negative relationship

Understand It with Pulse | Flag a mistake

45 **The average rate of change of f(x) = 3x² on the interval 0 ≤ x ≤ 2 is**

45 **The average rate of change of f(x) = 3x² on the interval 0 ≤ x ≤ 2 is**

Question 45

The average rate of change of $f(x) = 3x^2$ on the interval $0 \leq x \leq 2$ is

A) 6

B) 12

C) 3

D) 9

A 6

B 12

C 3

D 9

A 6

B 12

C 3

D 9

Understand It with Pulse

Flag a mistake

## 46 The discriminant of x² - 4x + 5 is -4. The equation has


46 The discriminant of x² - 4x + 5 is -4. The equation has


Question 46

The discriminant of $x^2 - 4x + 5$ is $-4$. The equation has

A) no roots

B) one repeated real root

C) no real roots

D) two distinct real roots


A no roots

B one repeated real root

C no real roots

D two distinct real roots


A no roots

B one repeated real root

C no real roots

D two distinct real roots

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47 **The value of sin 0° is**

47 **The value of sin 0° is**

Question 47

The value of sin 0° is

A) $\frac{1}{2}$ B) 0

C) −1 D) 1

A 1/2

B 0

C -1

D 1

A 1/2

B 0

C -1

D 1

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48 **A population has 2000 members and a sample of one tenth of the population is studied. The sample size is**

48 **A population has 2000 members and a sample of one tenth of the population is studied. The sample size is**

Question 48

A population has 2000 members and a sample of one tenth of the population is studied. The sample size is

A) 1800 B) 200

C) 2000 D) 20

A 1800

B 200

C 2000

D 20

A 1800

B 200

C 2000

D 20

Understand It with Pulse

Flag a mistake

49 **A linear function passes through (0, 2) and (3, 11). Its slope is**

49 **A linear function passes through (0, 2) and (3, 11). Its slope is**

Question 49

A linear function passes through (0, 2) and (3, 11). Its slope is

A) 2 B) 3

C) 9 D) $\frac{1}{3}$

A 2

B 3

C 9

D 1/3

A 2

B 3

C 9

D 1/3

Understand It with Pulse

Flag a mistake

50 **The sum of the zeros of x² + 9x + 18 is**

50 **The sum of the zeros of x² + 9x + 18 is**

Question 50

The sum of the zeros of $x^2 + 9x + 18$ is

A) 18 B) −18

C) −9 D) 9

A 18
B -18
C -9
D 9

A 18

B -18

C -9

D 9

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# ANSWER KEY

1. D
2. D
3. B
4. A
5. B
6. D
7. D
8. C
9. B
10. D
11. A
12. D
13. D
14. D
15. C
16. A
17. D
18. B
19. D
20. A
21. B
22. C
23. C
24. C
25. 4
26. 18
27. A
28. C
29. C
30. D
31. A
32. B
33. A
34. B
35. A
36. A
37. C
38. A
39. B
40. A
41. A
42. C
43. C
44. B
45. A
46. C
47. B
48. B
49. B
50. C

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