CALIFORNIA 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 **If $g(x) = x^3 - 2x$, then $g(-2)$ is**

- A 4
- B -4
- C 8
- D -12

Understand It with Pulse | Flag a mistake

2 **The simplified form of $x^2 - 9/x - 3$, for $x \neq 3$, is**

- A x - 9
- B x - 3
- C x + 9
- D x + 3

Understand It with Pulse | Flag a mistake

3 The solution of $2^x = 32$ is

- A 4
- B 16
- C 6
- D 5

Understand It with Pulse | Flag a mistake

4 The median of 3, 5, 7, 9, 11 is

- A 7
- B 11
- C 9
- D 5

Understand It with Pulse | Flag a mistake

5 The range of $f(x) = x^2 + 4$ is

- A $y \leq 4$
- B $y \geq 4$
- C $y \geq 0$
- D $y > 4$

Understand It with Pulse | Flag a mistake

6 The number of real solutions of $\sqrt{x} = x - 2$ is

- A 0
- B 2
- C 3
- D 1

Understand It with Pulse | Flag a mistake

7 **A sample of 80 grams halves every period. After 2 periods the mass remaining is**

- **A** 40
- **B** 20
- **C** 60
- **D** 10

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

- **A** $\frac{1}{2}$
- **B** $\frac{1}{4}$
- **C** 1
- **D** $\frac{3}{4}$

Understand It with Pulse | Flag a mistake

9 **Compared to the graph of y = f(x), the graph of y = 2f(x - 3) has been**

- **A** Stretched horizontally by 2, shifted right 3
- **B** Stretched by 2, shifted left 3
- **C** Compressed by 2, shifted right 3
- **D** Stretched by 2, shifted right 3

Understand It with Pulse | Flag a mistake

10 **The solution of $\sqrt{x + 5} = 3$ is**

- **A** -4
- **B** 14
- **C** 4
- **D** 9

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11 **An amount of 96 is halved twice. The amount left is**

- A 48
- B 24
- C 12
- D 36

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12 **The probability that two fair dice sum to 7 is**

- A $\frac{1}{6}$
- B $\frac{1}{12}$
- C $\frac{5}{36}$
- D $\frac{7}{36}$

Understand It with Pulse | Flag a mistake

13 **The vertex of $y = (x + 2)^2 - 3$ is**

A (2, -3)

B (2, 3)

C (-2, 3)

D (-2, -3)

Understand It with Pulse | Flag a mistake

14 **The graph below shows $y = \sqrt{x}$. The value of y when x = 4 is**

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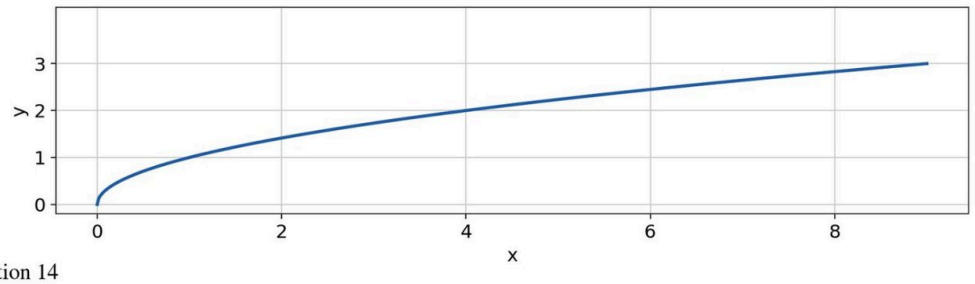

Question 14

The graph below shows $y = \sqrt{x}$. The value of y when $x = 4$ is

A) 1

B) 4

C) 2

D) 16

A 1

B 4

C 2

D 16

A 1

B 4

C 2

D 16

Understand It with Pulse

Flag a mistake

15 **In a right triangle with adjacent side 4 and hypotenuse 5, the cosine of the angle is**

- A $\frac{3}{5}$
- B $\frac{4}{5}$
- C $\frac{3}{4}$
- D $\frac{5}{4}$

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16 **For a normal distribution with mean 100 and standard deviation 15, about what percent of values lie between 85 and 115?**

- A 99.7%
- B 95%
- C 68%
- D 50%

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17 **Which statement about the relation {(1, 2), (1, 3), (4, 5)} is true?**

- A It is not a function because 2 has two outputs
- B It is not a function because 1 has two outputs
- C It is a function because it has three pairs
- D It is not a function because 4 has two outputs

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18 **The simplified form of $\sqrt{18} \cdot \sqrt{2}$ is**

- A 36
- B 6
- C $3\sqrt{2}$
- D $\sqrt{20}$

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19 The graph below shows $y = 2^x$. The value of y when x = 2 is

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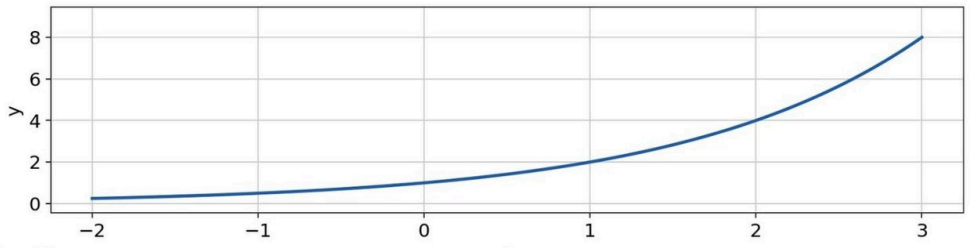

A 1
B 8
C 4
D 2

A 1

B 8

C 4

D 2

Understand It with Pulse

Flag a mistake

20 If P(A) = $\frac{1}{2}$ and P(B) = $\frac{1}{3}$ for independent events, then P(A and B) is

- A $\frac{2}{3}$
- B $\frac{5}{6}$
- C $\frac{1}{6}$
- D $\frac{1}{5}$

Understand It with Pulse | Flag a mistake

21 The domain of f(x) = 1/x - 5 is

- A $x \neq -5$
- B $x \neq 5$
- C $x \geq 5$
- D all real numbers

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22 The simplified form of $\frac{4x^2}{2x}$, for $x \neq 0$, is

- **A** 8x
- **B** x
- **C** 2x
- **D** $2x^2$

Understand It with Pulse | Flag a mistake

23 The solution of $\log_2 x = 3$ is

- **A** 8
- **B** 5
- **C** 9
- **D** 6

Understand It with Pulse | Flag a mistake

24 The number of ways to arrange 4 different books in a row is

- A 24
- B 16
- C 12
- D 8

Understand It with Pulse | Flag a mistake

25 If $f(x) = 4x^2 - 3$, then $f(3)$ is

ANSWER _____

Understand It with Pulse | Flag a mistake

26 The solution of $\frac{4}{x} = 2$ is

ANSWER _____

Understand It with Pulse | Flag a mistake

27 **The value of 4^3 is**

ANSWER _____

Understand It with Pulse | Flag a mistake

28 **Which data set has the larger standard deviation?**

A Set B: 0, 10, 20

B Neither has a standard deviation

C They are equal

D Set A: 10, 10, 10

Understand It with Pulse | Flag a mistake

29 **The graph below shows $y = x^2 - 9$. The vertex of the graph is**

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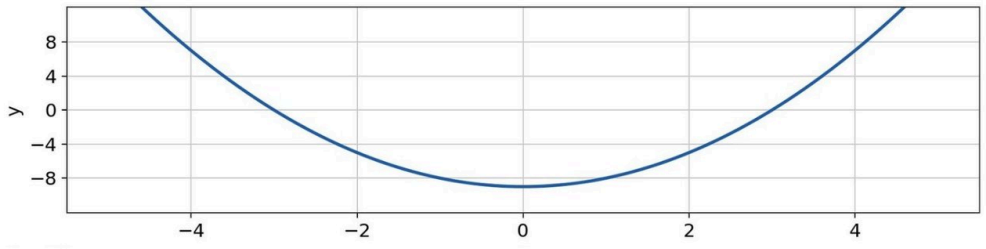

A (0, 3)
B (-3, 0)
C (3, 0)
D (0, -9)

A (0, 3)

B (-3, 0)

C (3, 0)

D (0, -9)

Understand It with Pulse

Flag a mistake

30 **The horizontal asymptote of f(x) = 5x + 2/2x - 1 is**

A $y = \frac{1}{2}$

B $y = 5$

C $y = \frac{5}{2}$

D $y = 2$

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31 **The value of 2^4 is**

ANSWER _____

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32 **The median of 4, 8, 10, 12 is**

- A 10
- B 9
- C 8
- D 7

Understand It with Pulse | Flag a mistake

33 **If $h(x) = x^2 - 4x + 3$, then $h(5)$ is**

- A 18
- B 13
- C 3
- D 8

Understand It with Pulse | Flag a mistake

34 **The simplified form of $x^2 - 25/x - 5$, for $x \neq 5$, is**

- A $x + 5$
- B $x - 25$
- C $x - 5$
- D $x + 25$

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35 **The value of log 1000 is**

- A 100
- B 10
- C 3
- D 4

Understand It with Pulse | Flag a mistake

36 **The range of 3, 7, 11 is**

A 11

B 4

C 8

D 14

Understand It with Pulse | Flag a mistake

37 **The function $f(x) = x^4 - 3x^2$ is**

A odd

B both even and odd

C neither even nor odd

D even

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38 The solution of $\sqrt{x + 3} + 1 = 5$ is

- A 13
- B 22
- C 19
- D 5

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39 The value of tan 45° is

- A 1
- B 0
- C $\frac{1}{2}$
- D $\sqrt{3}$

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40 **A value of 90 has mean 80 and standard deviation 10. Its z-score is**

- A 1
- B 2
- C 0
- D 10

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41 **The point (2, 9) lies on the graph of y = f(x). The corresponding point on the graph of the inverse $y = f^{-1}(x)$ is**

- A (2, 9)
- B (-9, 2)
- C (9, -2)
- D (9, 2)

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42 **The domain of $f(x) = 1/x^2 - 9$ is**

- A all real numbers
- B $x \neq 3$ and $x \neq -3$
- C $x \neq -3$
- D $x \neq 3$

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43 **The value of $\log_2 8 + \log_2 4$ is**

- A 32
- B 12
- C 5
- D 7

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44 **A game pays $12 if a fair die shows 6 and $0 otherwise. The expected payout in dollars is**

A 1

B 12

C 2

D 6

Understand It with Pulse | Flag a mistake

45 **The factored form of $x^2 + x - 20$ is**

A $(x + 5)(x + 4)$

B $(x - 5)(x - 4)$

C $(x - 5)(x + 4)$

D $(x + 5)(x - 4)$

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46 The value of $\sqrt{3 \cdot 27}$ is

ANSWER

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47 The value of tan 30° is

A $\sqrt{3}$

B $\frac{1}{2}$

C $\sqrt{3}/3$

D 1

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48 The number of ways to arrange 3 different books in a row is

ANSWER

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49 The remainder when $x^2 + 5x + 6$ is divided by $x + 1$ is

- A 2
- B 0
- C -2
- D 12

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50 The solution of $\sqrt{2x} = 6$ is

ANSWER _____

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ANSWER KEY

1. B
2. D
3. D
4. A
5. B
6. D
7. B
8. B
9. D
10. C
11. B
12. A
13. D
14. C
15. B
16. C
17. B
18. B
19. C
20. C
21. B
22. C
23. A
24. A
25. 33
26. 2
27. 64
28. A
29. D
30. C
31. 16
32. B
33. D
34. A
35. C
36. C
37. D
38. A
39. A
40. A
41. D
42. B
43. C
44. C
45. D
46. 9
47. C
48. 6
49. A
50. 18

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