ARKANSAS PRECALCULUS · UNIT 3 · 25 QUESTIONS

Analytic Geometry and Conics — 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 center of the circle $(x - 2)^2 + (y + 3)^2 = 25$ is**

- A (2, -3)
- B (-2, 3)
- C (2, 3)
- D (-2, -3)

Understand It with Pulse | Flag a mistake

2 **The radius of the circle $(x - 2)^2 + (y + 3)^2 = 25$ is**

A 25

B 5

C 10

D 50

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3 The vertex of the parabola $y = (x + 1)^2 - 4$ is



A (1, -4)

B (-1, 4)

C (-1, -4)

D (1, 4)

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4 **The parabola $y = x^2 - 6x + 5$ opens**

- A Downward
- B To the left
- C To the right
- D Upward

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5 **For the ellipse $\frac{x^2}{36} + \frac{y^2}{16} = 1$, the major axis is**

- A Horizontal
- B Vertical
- C Diagonal
- D None

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6 **For the ellipse $\frac{x^2}{36} + \frac{y^2}{16} = 1$, the length of the major axis is**

A 6

B 12

C 8

D 4

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7 **For the hyperbola $\frac{x^2}{9} - \frac{y^2}{4} = 1$, the transverse axis is**

A Vertical

B Diagonal

C Horizontal

D None

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8 The distance between the points (0, 0) and (3, 4) is



A 7

B 1

C 6

D 5

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9 **The midpoint of (2, 6) and (4, 10) is**

A (3, 8)

B (6, 16)

C (1, 2)

D (3, 2)

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10 The focus of the parabola $y^2 = 12x$ is



A (0, 3)

B (3, 0)

C (-3, 0)

D (0, -3)

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11 The directrix of the parabola $y^2 = 12x$ is

- A $x = 3$
- B $y = 3$
- C $x = -3$
- D $y = -3$

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12 The eccentricity of a circle is

- A 1
- B 2
- C 0.5
- D 0

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13 The center of the ellipse $\frac{(x - 1)^2}{25} + \frac{(y - 2)^2}{9} = 1$ is

- A (1, 2)
- B (-1, 2)
- C (1, -2)
- D (-1, -2)

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14 For the ellipse above, with $a^2 = 25$ and $b^2 = 9$, the value of c where $c^2 = a^2 - b^2$, is

- A 16
- B 4
- C 5
- D 34

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15 The asymptotes of $\frac{x^2}{9} - \frac{y^2}{4} = 1$ have slopes

A ± 3

B ± 9

C ± 2

D ± 4

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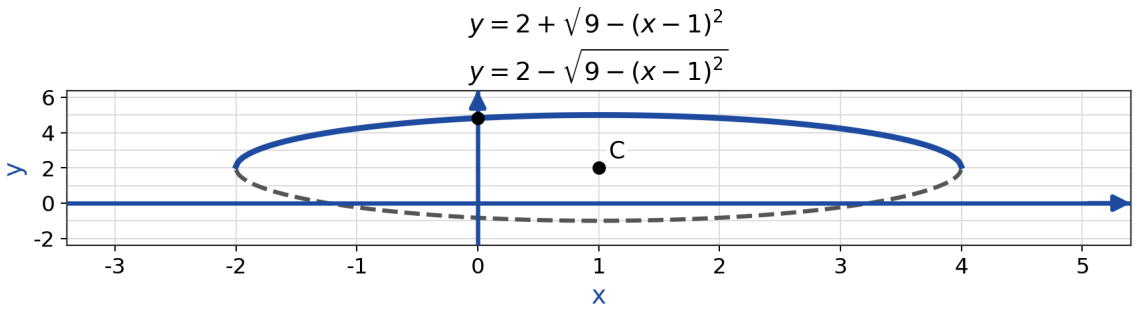
16 **The graph shows the circle $(x - 1)^2 + (y - 2)^2 = 9$. The radius is**



- **A** 9
- **B** 6
- **C** 2
- **D** 3

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17 **The vertex of $y = x^2 - 6x + 5$ is**

- **A** (3, -4)
- **B** (-3, -4)
- **C** (3, 4)
- **D** (-3, 4)

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18 **Completing the square, $x^2 + 8x$ needs the constant**

- A 8
- B 16
- C 64
- D 4

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19 **A parabola with vertex (0, 0) and focus (0, 2) opens**

- A Downward
- B Left
- C Upward
- D Right

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20 The distance from (1, 2) to (1, 7) is

ANSWER

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21 The radius of $x^2 + y^2 = 49$ is



ANSWER

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22 For $\frac{x^2}{100} + \frac{y^2}{36} = 1$, the semi major axis length is

ANSWER

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23 The center of $(x + 4)^2 + (y - 1)^2 = 16$ is



A (-4, -1)

B (4, -1)

C (-4, 1)

D (4, 1)

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24 **Which conic has eccentricity greater than 1**

- A Circle
- B Ellipse
- C Parabola
- D Hyperbola

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25 **The vertices of $\frac{x^2}{25} + \frac{y^2}{9} = 1$ on the major axis are**

- A (± 5, 0)
- B (0, ± 5)
- C (± 3, 0)
- D (0, ± 3)

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ANSWER KEY

1. A
2. B
3. C
4. D
5. A
6. B
7. C
8. D
9. A
10. B
11. C
12. D
13. A
14. B
15. C
16. D
17. A
18. B
19. C
20. 5
21. 7
22. 10
23. C
24. D
25. A

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