NEBRASKA 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 vertex of $y = (x - 2)^2 - 5$ is**

- A (2, -5)
- B (-2, -5)
- C (2, 5)
- D (-2, 5)

Understand It with Pulse | Flag a mistake

2 **The parabola $y = -2x^2 + 3$ opens**

A upward

B downward

C to the right

D to the left

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3 The focus of $y^2 = 12x$ is



A (3, 0)

B (0, 3)

C (-3, 0)

D (12, 0)

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4 The focus of $x^2 = 8y$ is

- A (2, 0)
- B (0, 2)
- C (0, 8)
- D (8, 0)

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5 The directrix of $x^2 = -16y$ is

- A $y = -4$
- B $y = 4$
- C $x = 4$
- D $x = -4$

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6 The focus of $(x - 1)^2 = 8(y - 2)$ is



A (1, 4)

B (1, 0)

C (3, 2)

D (-1, 2)

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7 **The directrix of $(x - 1)^2 = 8(y - 2)$ is**

A $y = 0$

B $y = 4$

C $y = 2$

D $x = -1$

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8 The center of $(x - 3)^2 + (y + 2)^2 = 25$ is



A (3, 2)

B (3, -2)

C (-3, 2)

D (-3, -2)

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

- A 25
- B 5
- C 10
- D $\sqrt{5}$

Understand It with Pulse | Flag a mistake

10 The center of $x^2 + y^2 + 6x - 8y + 9 = 0$ is

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

Understand It with Pulse | Flag a mistake

11 The radius of $x^2 + y^2 + 6x - 8y + 9 = 0$ is

- **A** 3
- **B** 4
- **C** 9
- **D** 16

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12 For $\frac{x^2}{25} + \frac{y^2}{9} = 1$, the foci are

- **A** $(\pm 4, 0)$
- **B** $(\pm 3, 0)$
- **C** $(\pm 5, 0)$
- **D** $(0, \pm 4)$

Understand It with Pulse | Flag a mistake

13 For $\frac{x^2}{25} + \frac{y^2}{9} = 1$, the major vertices are

A (± 3, 0)

B (± 5, 0)

C (0, ± 5)

D (± 4, 0)

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14 For $\frac{x^2}{25} + \frac{y^2}{9} = 1$, the eccentricity is

A $\frac{3}{5}$

B $\frac{4}{5}$

C $\frac{5}{4}$

D $\frac{9}{25}$

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15 The asymptotes of $\frac{x^2}{16} - \frac{y^2}{9} = 1$ are

A $y = \pm \frac{3}{4}x$

B $y = \pm \frac{4}{3}x$

C $y = \pm \frac{9}{16}x$

D $y = \pm \frac{16}{9}x$

Understand It with Pulse | Flag a mistake

16 The vertices of $\frac{y^2}{25} - \frac{x^2}{16} = 1$ are

A $(\pm 4, 0)$

B $(0, \pm 4)$

C $(\pm 5, 0)$

D $(0, \pm 5)$

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17 The transverse axis length of $\frac{x^2}{16} - \frac{y^2}{9} = 1$ is

A 3

B 4

C 6

D 8

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18 The distance between (1, 2) and (4, 6) is



A 3

B 4

C 5

D 7

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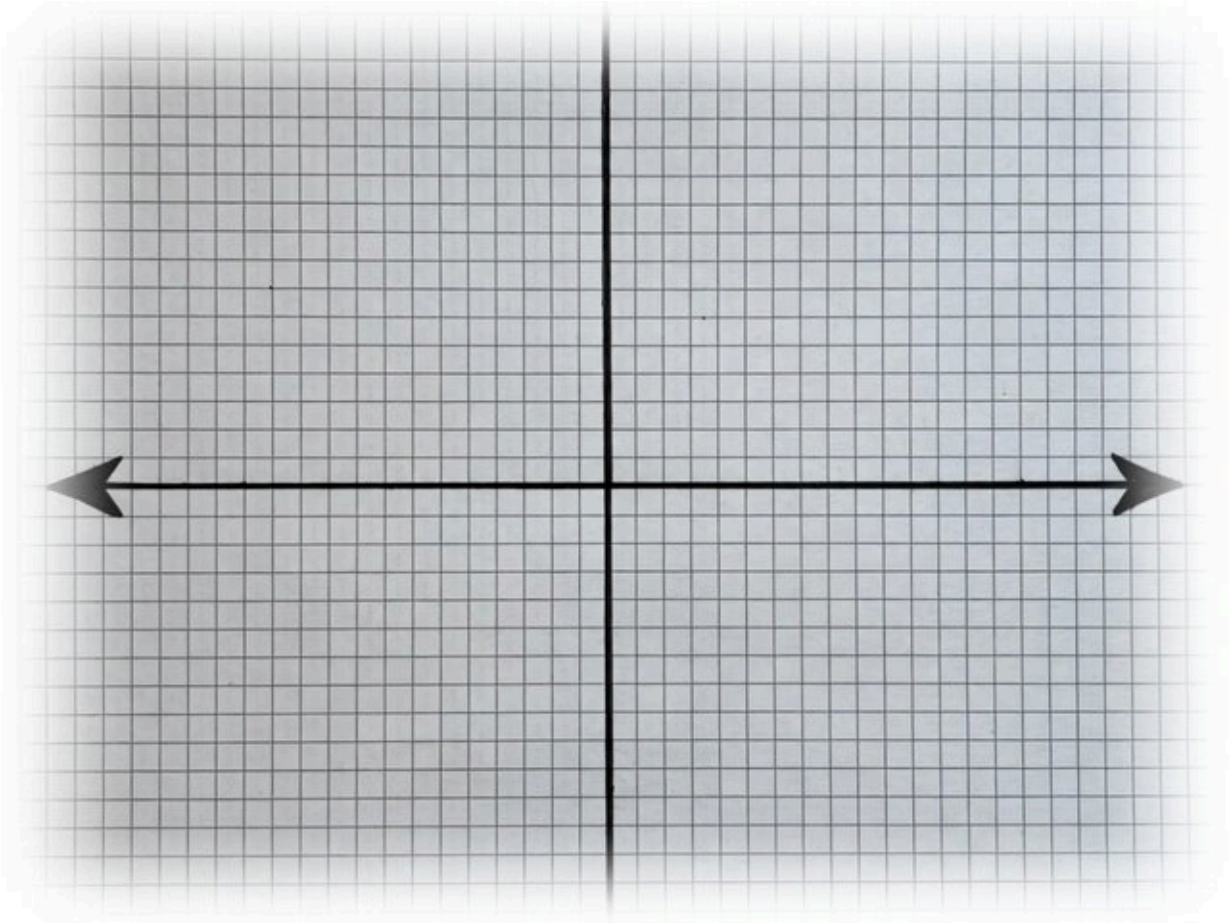
19 **The midpoint of (2, 3) and (6, 7) is**



A (4, 5)

B (3, 5)

C (4, 10)

D (8, 10)

Understand It with Pulse | Flag a mistake

20 The equation $x^2 + y^2 - 4x + 2y - 4 = 0$ represents a

- A parabola
- B ellipse
- C circle
- D hyperbola

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21 The center of $(x - 2)^2 + y^2 = 9$ is

- A (2, 0)
- B (-2, 0)
- C (0, 2)
- D (0, 0)

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22 The radius of $(x - 2)^2 + y^2 = 9$ is ____.



ANSWER _____

Understand It with Pulse | Flag a mistake

23 The value of p for $y^2 = 20x$ is ____.

ANSWER _____

Understand It with Pulse | Flag a mistake

24 For $\frac{x^2}{36} + \frac{y^2}{16} = 1$, the minor axis length is ____.

ANSWER _____

Understand It with Pulse | Flag a mistake

25 The length of the latus rectum of $y^2 = 12x$ is ____.

ANSWER _____

Understand It with Pulse | Flag a mistake

ANSWER KEY

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

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