Analytic Geometry and Conics, 25-question test — 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**

Question 1

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

A) (2, −5)

B) (−2, −5)

C) (2, 5)

D) (−2, 5)

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

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2 The parabola y = -2x² + 3 opens

Question 2

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

A) upward

B) downward

C) to the right

D) to the left

A upward

B downward

C to the right

D to the left

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

Question 3

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

A) (3, 0)

B) (0, 3)

C) (−3, 0)

D) (12, 0)

A (3, 0)

B (0, 3)

C (-3, 0)

D (12, 0)

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4 The focus of x² = 8y is

Question 4

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

A) (2, 0)

B) (0, 2)

C) (0, 8)

D) (8, 0)

A (2, 0)

B (0, 2)

C (0, 8)

D (8, 0)

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5 The directrix of x² = -16y is

Question 5

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

A) $y = -4$

B) $y = 4$

C) $x = 4$

D) $x = -4$

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

Question 6

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

A) $(1, 4)$

B) $(1, 0)$

C) $(3, 2)$

D) $(-1, 2)$

- **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

Question 7

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

A) $y = 0$

B) $y = 4$

C) $y = 2$

D) $x = -1$

A y = 4

B y = 0

C y = 2

D x = -1

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

Question 8

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

A) $(3, 2)$

B) $(3, -2)$

C) $(-3, 2)$

D) $(-3, -2)$

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

Question 9

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

A) 25

B) 5

C) 10

D) $\sqrt{5}$

A 25

B 5

C 10

D $\sqrt{5}$

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

Question 10

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

A) $(-3, 4)$

B) $(3, -4)$

C) $(-3, -4)$

D) $(3, 4)$

A (-3, 4)

B (3, -4)

C (-3, -4)

D (3, 4)

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

Question 11

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

A) 3

B) 4

C) 9

D) 16

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

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12 For $x^2/25 + y^2/9 = 1$, the foci are

Question 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) $(0, \pm 4)$

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

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13 For $x^2/25 + y^2/9 = 1$, the major vertices are

Question 13

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

A) $(\pm 3, 0)$

B) $(\pm 5, 0)$

C) $(0, \pm 5)$

D) $(\pm 4, 0)$

A (± 3, 0)

B (± 5, 0)

C (0, ± 5)

D (± 4, 0)

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14 For $x^2/25 + y^2/9 = 1$, the eccentricity is

Question 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) $\frac{9}{25}$

A 3/5

B 4/5

C 5/4

D 9/25

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15 The asymptotes of x²/16 - y²/9 = 1 are

Question 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) $y = \pm \frac{16}{9}x$

A y = ± 3/4x

B y = ± 4/3x

C y = ± 9/16x

D y = ± 16/9x

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16 The vertices of $y^2/25 - x^2/16 = 1$ are

Question 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) $(0, \pm 5)$

A (± 4, 0)

B (0, ± 4)

C (± 5, 0)

D (0, ± 5)

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17 The transverse axis length of $x^2/16 - y^2/9 = 1$ is

Question 17

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

A) 3

B) 4

C) 6

D) 8

A 3

B 4

C 6

D 8

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

Question 18

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

A) 3

B) 4

C) 5

D) 7

A 3

B 4

C 5

D 7

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19

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

Question 19

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

A) (4, 5)

B) (3, 5)

C) (4, 10)

D) (8, 10)

A (4, 5)

B (3, 5)

C (4, 10)

D (8, 10)

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

Question 20

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

A) parabola

B) ellipse

C) circle

D) hyperbola

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

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

Question 21

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

A) (2, 0)

B) (−2, 0)

C) (0, 2)

D) (0, 0)

- **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 _____.

Question 22

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

ANSWER _____

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23 The value of p for y² = 20x is _____.

Question 23

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

ANSWER _____

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24 For x²/36 + y²/16 = 1, the minor axis length is _____.

Question 24

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

ANSWER _____

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25 The length of the latus rectum of y² = 12x is _____.

Question 25

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

ANSWER _____

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ANSWER KEY

1. A
2. B
3. A
4. B
5. B
6. A
7. B
8. B
9. B
10. A
11. B
12. B
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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