CONNECTICUT 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 the parabola $y = (x - 2)^2 + 3$ is**

- A (2, 3)
- B (-2, 3)
- C (2, -3)
- D (0, 0)

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

- A (1, 4)
- B (-1, 4)
- C (-1, -4)
- D (0, 0)

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

- A (-3, -2)
- B (3, 2)
- C (3, -2)
- D (0, 0)

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

- A (-1, 5)
- B (1, -5)
- C (0, 0)
- D (1, 5)

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

- A (4, 1)
- B (-4, 1)
- C (4, -1)
- D (0, 0)

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6 **An ellipse centered at (0, 0) has semi major axis 5 and semi minor axis 3. Its major axis length is**

A 6

B 10

C 8

D 3

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7 **An ellipse centered at (1, 2) has semi major axis 4 and semi minor axis 2. Its major axis length is**

A 4

B 6

C 8

D 2

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8 **An ellipse centered at (0, 0) has semi major axis 6 and semi minor axis 4. Its major axis length is**

A 8

B 10

C 4

D 12

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9 **An ellipse centered at (2, -1) has semi major axis 5 and semi minor axis 3. Its major axis length is**

A 10

B 6

C 8

D 3

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**10** **An ellipse centered at (0, 0) has semi major axis 10 and semi minor axis 6. Its major axis length is**

- A 12
- B 20
- C 16
- D 6

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**11** **A circle with radius 5 has diameter**

ANSWER _____

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**12** **A circle with radius 3 has diameter**

ANSWER _____

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13 **A circle with radius 10 has diameter**

ANSWER _____

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14 **A circle with radius 4 has diameter**

ANSWER _____

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15 **A circle with radius 6 has diameter**

ANSWER _____

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**16** **A circle centered at (2, 3) with radius 5 has equation**

- **A** $(x + 2)^2 + (y + 3)^2 = 5$
- **B** $(x - 2)^2 + (y - 3)^2 = 5$
- **C** $x^2 + y^2 = 25$
- **D** $(x - 2)^2 + (y - 3)^2 = 25$

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**17** **A circle centered at (1, 2) with radius 4 has equation**

- **A** $(x - 1)^2 + (y - 2)^2 = 16$
- **B** $(x + 1)^2 + (y + 2)^2 = 4$
- **C** $(x - 1)^2 + (y - 2)^2 = 4$
- **D** $x^2 + y^2 = 16$

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**18** **A circle centered at (-1, 2) with radius 3 has equation**

- **A** $(x + -1)^2 + (y + 2)^2 = 3$
- **B** $(x - -1)^2 + (y - 2)^2 = 9$
- **C** $(x - -1)^2 + (y - 2)^2 = 3$
- **D** $x^2 + y^2 = 9$

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**19** **A circle centered at (4, -2) with radius 6 has equation**

- **A** $(x + 4)^2 + (y + -2)^2 = 6$
- **B** $(x - 4)^2 + (y - -2)^2 = 6$
- **C** $(x - 4)^2 + (y - -2)^2 = 36$
- **D** $x^2 + y^2 = 36$

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**20** **A circle centered at (1, 1) with radius 7 has equation**

- **A** $(x + 1)^2 + (y + 1)^2 = 7$
- **B** $(x - 1)^2 + (y - 1)^2 = 7$
- **C** $x^2 + y^2 = 49$
- **D** $(x - 1)^2 + (y - 1)^2 = 49$

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**21** **For a hyperbola with a = 3 and b = 4 , $c^2 = a^2 + b^2$ , so c is**

ANSWER _____

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**22** **For a hyperbola with a = 5 and b = 12 , $c^2 = a^2 + b^2$ , so c is**

ANSWER _____

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23 **For a hyperbola with a = 6 and b = 8 , $c^2 = a^2 + b^2$ , so c is**

ANSWER _____

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24 **For a hyperbola with a = 8 and b = 15 , $c^2 = a^2 + b^2$ , so c is**

ANSWER _____

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25 **For a hyperbola with a = 7 and b = 24 , $c^2 = a^2 + b^2$ , so c is**

ANSWER _____

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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. 10
12. 6
13. 20
14. 8
15. 12
16. D
17. A
18. B
19. C
20. D
21. 5
22. 13
23. 10
24. 17
25. 25

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