NEW JERSEY GEOMETRY · 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

**In a triangle, a midsegment is parallel to a base of length 14. The length of the midsegment is**

A 7

B 14

C 28

D 3.5

Understand It with Pulse

Flag a mistake

**2** **Two secants meet outside a circle. One has an outside segment of 4 and a whole length of 18. The other has an outside segment of 6. The whole length of the second secant is**

- **A** 18
- **B** 6
- **C** 9
- **D** 12

Understand It with Pulse | Flag a mistake

**3** **In a right triangle, the side adjacent to an acute angle is 12 and the hypotenuse is 13. The cosine of the angle is**

- **A** $\frac{5}{13}$
- **B** $\frac{12}{13}$
- **C** $\frac{12}{5}$
- **D** $\frac{13}{12}$

Understand It with Pulse | Flag a mistake

4 **The data are 3, 5, 7, 8, 9, and 12. The median is**

- A 7
- B 8
- C 7.5
- D 9

Understand It with Pulse | Flag a mistake

5 **Two triangles have all three pairs of corresponding sides equal. The congruence criterion that applies is**

- A SSS
- B SAS
- C ASA
- D AAS

Understand It with Pulse | Flag a mistake

6 **A radius drawn to a point of tangency makes an angle with the tangent of**

- A 45°
- B 180°
- C 60°
- D 90°

Understand It with Pulse | Flag a mistake

7 **In a right triangle, an angle measures 45° and the hypotenuse is 10. The opposite side, to one decimal place, is about**

- A 5
- B 10
- C 14.1
- D 7.1

Understand It with Pulse | Flag a mistake

8 **The data are 2, 4, 4, 4, 5, 5, 7, and 9. The population standard deviation is**

A 4

B 1.4

C 2

D 5

Understand It with Pulse | Flag a mistake

9 **Triangle ABC is similar to triangle DEF. Angle A measures 35° and angle B measures 75°. Angle E measures**

A 75°

B 35°

C 70°

D 110°

Understand It with Pulse | Flag a mistake

**10** **A tangent segment and a secant meet outside a circle. The secant has an outside segment of 4 and a whole length of 9. The tangent segment has length**

- **A** 3
- **B** 9
- **C** 6
- **D** 12

Understand It with Pulse | Flag a mistake

**11** **A tree is 20 m from an observer. The angle of elevation to the top is 30°. The height of the tree, to one decimal place, in metres, is about**

- **A** 11.5
- **B** 34.6
- **C** 10
- **D** 20

Understand It with Pulse | Flag a mistake

**12** **Two fair coins are tossed. The probability of two heads is**

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

Understand It with Pulse | Flag a mistake

**13** **Under the translation (x + 3, y - 2), the point (-1, 5) maps to**

- **A** (2, 3)
- **B** (-4, 7)
- **C** (2, 7)
- **D** (-4, 3)

Understand It with Pulse | Flag a mistake

**14** A circle has radius 4. Its area, to one decimal place, is about

- A 25.1
- B 12.6
- C 50.3
- D 100.5

Understand It with Pulse | Flag a mistake

**15** In a triangle, two sides measure 5 and 7 with included angle 60°. The third side, to one decimal place, is about

- A 4
- B 8.6
- C 12
- D 6.2

Understand It with Pulse | Flag a mistake

16 **A bag has 3 red balls and 2 blue balls. Two balls are drawn without replacement. The probability both are red is**

- A 0.6
- B 0.36
- C 0.3
- D 0.5

Understand It with Pulse | Flag a mistake

17 **The point (3, -4) reflected across the x -axis maps to**

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

Understand It with Pulse | Flag a mistake

18 **Two tangent segments are drawn to a circle from the same outside point. One tangent segment has length 7. The other tangent segment has length**

- A 7
- B 14
- C 3.5
- D 49

Understand It with Pulse | Flag a mistake

19 **A rectangular prism measures 3 by 4 by 5. Its surface area is**

- A 60
- B 47
- C 94
- D 120

Understand It with Pulse | Flag a mistake

**20** A line of best fit is y = 2x + 3. The predicted value of y when x = 10 is

- A 20
- B 23
- C 13
- D 33

Understand It with Pulse | Flag a mistake

**21** Two right triangles have equal hypotenuses and one pair of equal legs. The congruence criterion that applies is

- A SSS
- B SAS
- C ASA
- D HL

Understand It with Pulse | Flag a mistake

22 **The midpoint of the segment joining (2, 6) and (8, 2) is**

- A (5, 4)
- B (3, 2)
- C (10, 8)
- D (5, 2)

Understand It with Pulse | Flag a mistake

23 **A cone has radius 4 and height 9. Its volume, to one decimal place, is about**

- A 452.4
- B 150.8
- C 50.3
- D 301.6

Understand It with Pulse | Flag a mistake

**24** **In a scatter plot, as x increases, y tends to decrease. The correlation is**

- A positive
- B none
- C negative
- D perfectly positive

Understand It with Pulse | Flag a mistake

**25** **Two similar triangles have corresponding sides 9 and 12. Another side of the smaller triangle is 15. The corresponding side is**

- A 20
- B 11.25
- C 15
- D 27

Understand It with Pulse | Flag a mistake

**26** The center of a circle with diameter endpoints (2, 3) and (10, 7) is

A (4, 2)

B (6, 5)

C (12, 10)

D (5, 6)

Understand It with Pulse | Flag a mistake

**27** A right triangle has hypotenuse 13 and one leg 5. The other leg is _____

ANSWER _____

Understand It with Pulse | Flag a mistake

28 **Adding a very large outlier to a data set usually**

A increases the median more than the mean

B leaves both the mean and median unchanged

C increases the mean more than the median

D changes the mode the most

Understand It with Pulse | Flag a mistake

29 **Which transformation does NOT always map a figure to a congruent figure?**

A translation

B reflection

C rotation

D dilation with scale factor 3

Understand It with Pulse | Flag a mistake

30 **A circle has radius 10. A sector with central angle 36° has area, to one decimal place, about ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

31 **In a right triangle, the side opposite an acute angle is 8 and the hypotenuse is 10. The sine of the angle is**

A 0.6

B 0.8

C 1.25

D 0.75

Understand It with Pulse | Flag a mistake

**32** **The data are 5, 10, 15, and 20. The mean is**

- A 10
- B 12.5
- C 15
- D 50

Understand It with Pulse | Flag a mistake

**33** **Two similar figures have a linear scale factor of 1:4. The smaller figure has area 5. The larger area is**

- A 20
- B 9
- C 125
- D 80

Understand It with Pulse | Flag a mistake

**34** An inscribed angle measures 55°. Its intercepted arc measures

- A 55°
- B 27.5°
- C 110°
- D 165°

Understand It with Pulse | Flag a mistake

**35** In a right triangle, an angle measures 30° and the hypotenuse is 14. The opposite side is

- A 7
- B 14
- C 12.1
- D 3.5

Understand It with Pulse | Flag a mistake

**36** The data are 1, 3, 5, 7, 9, 11, and 13. The first quartile is 3 and the third quartile is 11. The interquartile range is

- A 8
- B 10
- C 4
- D 12

Understand It with Pulse | Flag a mistake

**37** An exterior angle of a triangle measures 130°. One remote interior angle measures 50°. The other remote interior angle measures

- A 50°
- B 130°
- C 180°
- D 80°

Understand It with Pulse | Flag a mistake

38 **Two chords intersect inside a circle. The segments of one chord are 5 and 6, and one segment of the other chord is 10. The other segment is**

A 30

B 15

C 3

D 10

Understand It with Pulse | Flag a mistake

39 **In a triangle, two sides measure 8 and 10 with included angle 90°. The third side, to one decimal place, is about**

A 2

B 12.8

C 18

D 6

Understand It with Pulse | Flag a mistake

40 **A bag has 5 red balls and 5 blue balls. Two balls are drawn without replacement. The probability both are blue, to two decimal places, is about**

- A 0.25
- B 0.22
- C 0.5
- D 0.2

Understand It with Pulse | Flag a mistake

41 **The point (3, -2) rotated 180° about the origin maps to**

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

Understand It with Pulse | Flag a mistake

**42** **A circle has radius 12. An arc with central angle 30° has length, to one decimal place, about**

- A 75.4
- B 12.6
- C 6.3
- D 37.7

Understand It with Pulse | Flag a mistake

**43** **A rectangular prism measures 2 by 3 by 6. Its surface area is**

- A 36
- B 72
- C 108
- D 18

Understand It with Pulse | Flag a mistake

44 **A line of best fit is y = -3x + 20. The predicted value of y when x = 5 is**

A 35

B 5

C -5

D 15

Understand It with Pulse | Flag a mistake

45 **The point (-5, 2) reflected across the y -axis maps to**

A (-5, -2)

B (5, -2)

C (2, -5)

D (5, 2)

Understand It with Pulse | Flag a mistake

**46** The circle $(x - 5)^2 + (y + 2)^2 = 49$ has center

A (5, 2)

B (-5, -2)

C (5, -2)

D (-5, 2)

Understand It with Pulse | Flag a mistake

**47** A cone has radius 3 and height 10. Its volume, to one decimal place, is about ____

ANSWER _____

Understand It with Pulse | Flag a mistake

48 **Heights are normally distributed with mean 50 and standard deviation 10. About what percent of values are between 30 and 70?**

A 68%

B 95%

C 99.7%

D 50%

Understand It with Pulse | Flag a mistake

49 **The remote interior angles of a triangle measure 65° and 45°. The exterior angle at the third vertex measures**

A 20°

B 110°

C 65°

D 155°

Understand It with Pulse | Flag a mistake

50 **The distance between (0, 3) and (4, 0) is ____**

ANSWER

Understand It with Pulse | Flag a mistake

# ANSWER KEY

| | | | | | |
|---|---|---|---|---|---|
| **1.** | A | **18.** | A | **35.** | A |
| **2.** | D | **19.** | C | **36.** | A |
| **3.** | B | **20.** | B | **37.** | D |
| **4.** | C | **21.** | D | **38.** | C |
| **5.** | A | **22.** | A | **39.** | B |
| **6.** | D | **23.** | B | **40.** | B |
| **7.** | D | **24.** | C | **41.** | A |
| **8.** | C | **25.** | A | **42.** | C |
| **9.** | A | **26.** | B | **43.** | B |
| **10.** | C | **27.** | 12 | **44.** | B |
| **11.** | A | **28.** | C | **45.** | D |
| **12.** | D | **29.** | D | **46.** | C |
| **13.** | A | **30.** | 31.4 | **47.** | 94.2 |
| **14.** | C | **31.** | B | **48.** | B |
| **15.** | D | **32.** | B | **49.** | B |
| **16.** | C | **33.** | D | **50.** | 5 |
| **17.** | D | **34.** | C | | |

© 2026 Brett Robbins. All Rights Reserved.