ARIZONA 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 **Two similar triangles have a linear scale factor of 2:7. The smaller triangle has perimeter 24. The larger perimeter is**

- A 12
- B 48
- C 84
- D 168

Understand It with Pulse | Flag a mistake

2 **An inscribed angle intercepts an arc of 100°. The angle measures**

- A 25°
- B 100°
- C 50°
- D 200°

Understand It with Pulse | Flag a mistake

3 In a 5 12 13 right triangle, the cosine of the angle adjacent to the side of length 12 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 median of 3, 7, 9, 12, and 15 is

- **A** 7
- **B** 9
- **C** 12
- **D** 10

Understand It with Pulse | Flag a mistake

5 **Triangle ABC is congruent to triangle DEF. Angle A measures 42° and angle B measures 71°. Angle F measures**

- A 42°
- B 71°
- C 67°
- D 113°

Understand It with Pulse | Flag a mistake

6 **A sector has radius 6 and a central angle of 90°. The sector area is**

- A 36π
- B 6π
- C 18π
- D 9π

Understand It with Pulse | Flag a mistake

7 **In a right triangle, tan 45° = 1. If the adjacent side is 9, the opposite side is**

A 4.5

B 9

C 18

D 1

Understand It with Pulse | Flag a mistake

8 **The standard deviation measures**

A the middle value

B the most common value

C spread around the mean

D the largest value

Understand It with Pulse | Flag a mistake

9 The point (3, 6) rotated 90° counterclockwise about the origin maps to

- A (6, -3)
- B (-6, 3)
- C (6, 3)
- D (-3, 6)

Understand It with Pulse | Flag a mistake

10 A chord is 5 units from the center of a circle of radius 13. The chord length is

- A 12
- B 10
- C 26
- D 24

Understand It with Pulse | Flag a mistake

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

- A 8
- B 12
- C 18
- D 14

Understand It with Pulse | Flag a mistake

12 **A correlation coefficient of 0.9 shows a**

- A strong positive relationship
- B weak positive relationship
- C strong negative relationship
- D no relationship

Understand It with Pulse | Flag a mistake

13 **In a triangle, a midsegment is parallel to a base of length 24. The length of the midsegment is**

A 12

B 24

C 48

D 6

Understand It with Pulse | Flag a mistake

14 **The circle $(x + 1)^2 + (y - 4)^2 = 25$ has center**

A (-1, -4)

B (1, -4)

C (1, 4)

D (-1, 4)

Understand It with Pulse | Flag a mistake

15 In a 30 60 90 triangle, the shortest side is 7. The longer leg is

- A 7
- B 14
- C $7\sqrt{3}$
- D 21

Understand It with Pulse | Flag a mistake

16 The probability of rolling a sum of 7 with two fair dice is

- A $\frac{1}{6}$
- B $\frac{1}{12}$
- C $\frac{7}{36}$
- D $\frac{1}{3}$

Understand It with Pulse | Flag a mistake

17 **Two similar triangles have shortest sides 5 and 20. The longest side of the smaller triangle is 11. The longest side of the larger triangle is _____**

ANSWER

Understand It with Pulse | Flag a mistake

18 **An angle inscribed in a semicircle measures**

A 180°

B 60°

C 45°

D 90°

Understand It with Pulse | Flag a mistake

19 **A trapezoid has bases 10 and 16 and height 5. Its area is**

- A 65
- B 130
- C 80
- D 45

Understand It with Pulse | Flag a mistake

20 **In a normal distribution with mean 50 and standard deviation 10, a value 2 standard deviations above the mean is**

- A 30
- B 60
- C 70
- D 52

Understand It with Pulse | Flag a mistake

21 **A triangle has two sides of lengths 7 and 13. The greatest possible whole number length of the third side is**

- A 20
- B 19
- C 21
- D 6

Understand It with Pulse | Flag a mistake

22 **An inscribed angle intercepts an arc of 84°. The angle measures**

- A 42°
- B 168°
- C 84°
- D 21°

Understand It with Pulse | Flag a mistake

23 **A cone has radius 4 and height 9. Its volume is**

- A 48π
- B 144π
- C 36π
- D 16π

Understand It with Pulse | Flag a mistake

24 **The best way to choose a fair sample of students is to**

- A pick names at random
- B ask only friends
- C ask only volunteers
- D ask the first five students

Understand It with Pulse | Flag a mistake

25 **One triangle has sides 5, 7, and 9. Another has sides 10, 14, and 18. The triangles are**

A similar by SAS

B similar by SSS

C not similar

D similar by AA

Understand It with Pulse | Flag a mistake

26 **The distance between (0, 0) and (6, 8) is**

A 14

B 100

C 48

D 10

Understand It with Pulse | Flag a mistake

27 A cylinder has radius 2 and height 5. Its total surface area is

- A 20π
- B 28π
- C 14π
- D 40π

Understand It with Pulse | Flag a mistake

28 The probability of an impossible event is

- A 1
- B 0
- C 0.5
- D $\frac{1}{2}$

Understand It with Pulse | Flag a mistake

29 **A figure has perimeter 48. Under a dilation with scale factor 0.25, the perimeter of the image is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

30 **A circle has circumference 20π. Its radius is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

31 **In a right triangle, the opposite side is 12 and the hypotenuse is 20. The sine of the angle is**

A $\frac{12}{16}$

B $\frac{20}{12}$

C $\frac{12}{20}$

D $\frac{16}{20}$

Understand It with Pulse | Flag a mistake

32 **The mean of 10, 14, 18, and 22 is**

- A 16
- B 18
- C 64
- D 14

Understand It with Pulse | Flag a mistake

33 **Triangle ABC is congruent to triangle XYZ. Angle B measures 80°. Angle Y measures**

- A 100°
- B 80°
- C 90°
- D 20°

Understand It with Pulse | Flag a mistake

34 An inscribed angle measures 38°. Its intercepted arc measures

- A 76°
- B 38°
- C 19°
- D 152°

Understand It with Pulse | Flag a mistake

35 A right triangle has legs 6 and 8. The hypotenuse is ____

ANSWER _____

Understand It with Pulse | Flag a mistake

36 **The first quartile is 12 and the third quartile is 30. The interquartile range is**

- A 12
- B 42
- C 21
- D 18

Understand It with Pulse | Flag a mistake

37 **Under a dilation centered at the origin with scale factor 0.5, the point (8, -6) maps to**

- A (4, -3)
- B (16, -12)
- C (8, -3)
- D (4, -6)

Understand It with Pulse | Flag a mistake

38 **A chord is 12 units from the center of a circle of radius 13. The chord length is**

- A 25
- B 13
- C 10
- D 5

Understand It with Pulse | Flag a mistake

39 **A triangle has base 14 and height 4. Its area is**

- A 18
- B 28
- C 56
- D 36

Understand It with Pulse | Flag a mistake

40 **A bag has 5 red balls and 3 blue balls. The probability of drawing a red ball first is**

- **A** $\frac{1}{8}$
- **B** $\frac{3}{8}$
- **C** $\frac{5}{3}$
- **D** $\frac{5}{8}$

Understand It with Pulse | Flag a mistake

41 **An isosceles triangle has base angles of 72° each. The vertex angle measures**

- **A** 36°
- **B** 72°
- **C** 108°
- **D** 144°

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42 **Two chords intersect inside a circle, intercepting arcs of 80° and 60°. The angle between the chords measures**

- A 140°
- B 40°
- C 20°
- D 70°

Understand It with Pulse | Flag a mistake

43 **A sphere has radius 2. Its volume is**

- A 16π
- B $\frac{16\pi}{3}$
- C 8π
- D $\frac{32\pi}{3}$

Understand It with Pulse | Flag a mistake

44 **In a normal distribution with mean 100 and standard deviation 15, a value 1 standard deviation below the mean is**

- A 100
- B 70
- C 85
- D 115

Understand It with Pulse | Flag a mistake

45 **Two similar triangles have corresponding sides 9 and 27. Another side of the smaller triangle is 4. The corresponding side is**

- A 12
- B 8
- C 36
- D 7

Understand It with Pulse | Flag a mistake

46 **An angle formed by a tangent and a chord intercepts an arc of 140°. The angle measures**

- A 280°
- B 140°
- C 70°
- D 35°

Understand It with Pulse | Flag a mistake

47 **A tower 20 tall is seen at an angle of elevation of 45°. The horizontal distance to the tower is**

- A 10
- B $20\sqrt{2}$
- C 40
- D 20

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48 **A histogram with most values low and a long tail to the right is**

- A symmetric
- B uniform
- C skewed left
- D skewed right

Understand It with Pulse | Flag a mistake

49 **Two similar figures have a linear scale factor of 3:2. The smaller figure has area 20. The larger area is**

- A 30
- B 45
- C 80
- D 13.33

Understand It with Pulse | Flag a mistake

50 **In a quadrilateral inscribed in a circle, one angle measures 110°. The opposite angle measures**

A 110°

B 180°

C 70°

D 20°

Understand It with Pulse | Flag a mistake

ANSWER KEY

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

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