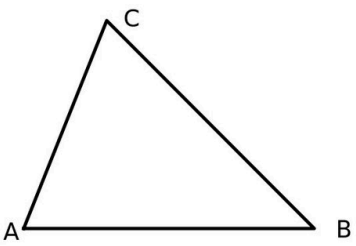
Final Exam, Practice final exam (50 questions) — Practice Test

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**



Question 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

- **A** 7
- **B** 14
- **C** 28
- **D** 3.5

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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

Question 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

A 18

B 6

C 9

D 12

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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

Question 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) $\frac{13}{12}$

A 5/13

B 12/13

C 12/5

D 13/12

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4

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

Question 4

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

A) 7

B) 8

C) 7.5

D) 9

A 7

B 8

C 7.5

D 9

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5

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

Question 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

A SSS

B SAS

C ASA

D AAS

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

Question 6

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

A) 45°

B) 180°

C) 60°

D) 90°

A 45°

B 180°

C 60°

D 90°

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7

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

Question 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

A 5

B 10

C 14.1

D 7.1

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8

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

Question 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

A 4

B 1.4

C 2

D 5

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9

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

Question 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°

A 75°

B 35°

C 70°

D 110°

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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

Question 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

A 3

B 9

C 6

D 12

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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

Question 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

A 11.5

B 34.6

C 10

D 20

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

Question 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) $\frac{1}{4}$

- **A** 1/2
- **B** 3/4
- **C** 1/3
- **D** 1/4

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

Question 13

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

A) $(2, 3)$

B) $(-4, 7)$

C) $(2, 7)$

D) $(-4, 3)$

A (2, 3)

B (-4, 7)

C (2, 7)

D (-4, 3)

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

Question 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

A 25.1

B 12.6

C 50.3

D 100.5

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15

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

Question 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

A 4

B 8.6

C 12

D 6.2

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16

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

Question 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

A 0.6

B 0.36

C 0.3

D 0.5

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17

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

Question 17

The point $(3, -4)$ reflected across the x −axis maps to

A) $(-3, -4)$

B) $(-3, 4)$

C) $(4, 3)$

D) $(3, 4)$

A (-3, -4)

B (-3, 4)

C (4, 3)

D (3, 4)

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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

Question 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

A 7

B 14

C 3.5

D 49

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

Question 19

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

A) 60

B) 47

C) 94

D) 120

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

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

Question 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

A 20

B 23

C 13

D 33

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21

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

Question 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

A SSS

B SAS

C ASA

D HL

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

Question 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)

A (5, 4)

B (3, 2)

C (10, 8)

D (5, 2)

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

Question 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

A 452.4

B 150.8

C 50.3

D 301.6

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24

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

Question 24

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

A) positive

B) none

C) negative

D) perfectly positive

A positive

B none

C negative

D perfectly positive

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25

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

Question 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

A 20

B 11.25

C 15

D 27

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

Question 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)

- **A** (4, 2)
- **B** (6, 5)
- **C** (12, 10)
- **D** (5, 6)

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

Question 27

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

ANSWER _____

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28 Adding a very large outlier to a data set usually

Question 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

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

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29

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

Question 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

A translation

B reflection

C rotation

D dilation with scale factor 3

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30

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

Question 30

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

ANSWER

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31

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

Question 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

A 0.6

B 0.8

C 1.25

D 0.75

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

Question 32

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

A) 10

B) 12.5

C) 15

D) 50

A 10

B 12.5

C 15

D 50

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33

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

Question 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

A 20

B 9

C 125

D 80

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

Question 34

An inscribed angle measures 55°. Its intercepted arc measures

A) 55°

B) 27.5°

C) 110°

D) 165°

A 55°

B 27.5°

C 110°

D 165°

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Flag a mistake

35

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

Question 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

A 7

B 14

C 12.1

D 3.5

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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

Question 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

A 8

B 10

C 4

D 12

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37

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

Question 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°

A 50°

B 130°

C 180°

D 80°

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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

Question 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

A 30

B 15

C 3

D 10

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39

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

Question 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

A 2

B 12.8

C 18

D 6

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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

Question 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

A 0.25

B 0.22

C 0.5

D 0.2

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41

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

Question 41

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

A) $(-3, 2)$

B) $(3, 2)$

C) $(-2, 3)$

D) $(2, -3)$

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

Question 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

A 75.4

B 12.6

C 6.3

D 37.7

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Flag a mistake

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

Question 43

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

A) 36 B) 72

C) 108 D) 18

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

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

Question 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

A 35

B 5

C -5

D 15

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

Question 45

The point $(-5,\ 2)$ reflected across the y $-$axis maps to

A) $(-5,\ -2)$

B) $(5,\ -2)$

C) $(2,\ -5)$

D) $(5,\ 2)$

A (-5, -2)

B (5, -2)

C (2, -5)

D (5, 2)

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

Question 46

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

A) (5, 2)

B) (−5, −2)

C) (5, −2)

D) (−5, 2)

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

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

Question 47

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

ANSWER _____

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48

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

Question 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%

A 68%

B 95%

C 99.7%

D 50%

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Flag a mistake

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

Question 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°

A 20°

B 110°

C 65°

D 155°

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

Question 50

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

ANSWER

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ANSWER KEY

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

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