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Math GED Practice Test

This test includes 50 questions. Math Formula Sheet->page 10
Correct answers with explanations ->pages 11-12.

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GED PRACTICE QUESTIONS:

1. Solve: 5 + 9 x 3 – 8

A. 34
B. -70
C. -40
D. 24
E. Need parentheses to compute.

2. Which is smallest: 9 x 6 -or- 8 x 7 -or- 5 x 11?

A. 9 x 6
B. 8 x 7
C. A) and B) are equally smallest.
D. 5 x 11
E. Too close to tell.

3. What is the vehicle's speed when traveling 30 miles in 30 minutes?

A. 1 mile per hour (mph)
B. 30 mph
C. 60 mph
D. a mile a minute
E. Both C) and D) are correct answers

4. Sam's Bakery makes 3000 donuts in 6 hours, while Annie bakes 4800 donuts per 10-hr day.

A. Annie is more efficient baking 1800 more donuts.-3
B. Sam is more efficient, since he take 4 fewer hours.
C. Sam is more efficient by 20 donuts / hr.
D. Annie is more efficient by 20 donuts / hr.
E. Both bake at nearly the same rate.

5. Solve: 36 / 9 – 3 x 2

A. 12
B. 2
C. -2
D. 3
E. Need parentheses to compute.

6. Find the missing factor: 8 x 3 = 6 x?

A. 5
B. 18
C. 4
D. 16
E. 11

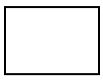
7. How long does a 220-mile trip take moving at 50 miles per hour (mph)?

A. 4.0 hours
B. 4.5 hours
C. 44 minutes
D. 4 hours, 24 minutes

8. If the average daily high temperature for the week was 28C, find the missing temperature from the following list: 25C, 26C, 31C, 30C, 29C, 24C, ? C

A. 28C
B. 31C
C. 27C
D. 21C

9. A cubic box has a surface area of 600 sq.in. What is the volume of the box?



10. If the side of a square is x + 5, and the square's area is 225, what is x?

A. x= 5
B. x= 10
C. x= 15
D. x= 25

11. Bob is 80 miles ahead moving at 50 mph, and Joe is traveling at 70 mph. How long for Joe to catch Bob?

A. 1.6 hr
B. 1.1 hr
C. 2.7 hr
D. 4.0 hr

12. Which line passes through points (-2,2) and (4, -10)?

A. y= -5x – 8
B. y= -5x + 10
C. y= 6x + 14
D. y= -2x – 2

13. Simplify 90/105

A. 16/21
B. 32/42
C. 6/7
D. 36/42

14. Find the distance between -2.8 and 7.3 on a number line.

A. 4.5
B. 5.5
C. 10.1
D. 9.5

15. Find the area of a hexagon whose side length is 5.

A. 25
B. 30
C. 50
D. 65

16. What are the sides of a rectangle whose area is 60?

A. 30×30
B. 15×15
C. 20×30
D. 5×12

17. Which triangle's sides can form a right triangle?

A. 5,6,11
B. 4,5,6
C. 3,4,5
D. 2,3,4

18. Jane has 11 coins totaling $1.65 in quarters, dimes, and nickels. Create the equations.

A. q + d + n = 165
B. q + d + n = 11 and 25q + 10d + 5n = 165
C. 25q + 10d + 5n = 165
D. q + d + n = 40

19. Solve x^2 + 3x – 4 = 0.

A. x= 1
B. x= 4
C. x= 3, -4
D. x= 1, -4

20. Solve x^2 – 10x + 12 = -13.

A. x= 5
B. x= -5
C. x= -5, 5

D. x= 10, 12

21. Find the slope of 6x = 12 – 3y.

A. 6
B. -6
C. 3
D. -2

22. Which 15-minute mileage markers indicate a car traveling 60 mph?

A. 10, 20, 30
B. 15, 30, 45
C. 20, 40, 60
D. 20, 30, 40

23. What is the line slope linking these points: (6,10)(2,6)(-1,3)(-3,1)?

A. 4
B. -4
C. -2
D. 1

24. Which line is parallel to 3y = 4 – 6x?

A. y = 2x – 4
B. y = 2x + 4
C. y = -6x + 4
D. y = -2x + 425,746

25. Which set of points CANNOT form a function?

A. [0,1][2,3][-2,-3][-1,3]
B. [1,0][2,0][3,0][4,0]
C. [0,0][0,1][1,2][2,3]
D. [1,1][2,2][3,3][4,2][5,1]

26. When is 3x – 4 > 2?

A. x > 2/3

B. x < 2/3
C. x < -2
D. x > 2

27. Solve sqrt[x+4] = 5

A. x= 1
B. x= 21
C. x= -29, 21
D. x= -29

28. What is the area of a circle whose circumference is 6pi?

A. 9pi
B. 36pi
C. 9
D. 36

29. 28 – A 4-inch high can has a volume of 100pi cu.in. What is the can's diameter?

A. 10 in.
B. 5 in.
C. 25pi in.
D. 5pi in.

30. What is the square root of four cubed?

A. 2
B. 4
C. 8
D. 16

31. What is 2/3 of 5/8?

A. 7/11
B. 3/5
C. 10/11
D. 5/12

32. On a map where 2 inches = 5 miles, how far is 4.4 inches?

A. 4.4 miles
B. 8.8 miles
C. 22 miles
D. 11 miles

33. Where is f(x) = sqrt(x+5)/(x-5) undefined?

A. x= 5, x< -5
B. x= -5
C. x< -5
D. x= 5

34. What is the square root 125 plus the square root of 25?

A. square root of 150
B. 5 (1 + sqrt 5)
C. 10
D. 5 sqrt 6

35. A right triangle has legs of x+5 and 2x-4. What is the triangle's area in terms of 'x'?

A. 7 and 7/15
B. 3 and 3/15
C. 3 and 1/9
D. 3 and 13/9
E. 4 and 4/9

36. Solve -2x^2 + 6x – 20 = 0.

A. x= -5
B. x= 2
C. x= -2, 5
D. no real solution

37. Product demand is Q= 100 – 10P. Supply is Q= 5P + 25. Where do the lines cross?

A. P= 10, Q= 0
B. P= 10, Q= 75

C. P= 15, Q= -50
D. P= 5, Q= 50

38. Which is bigger: y= x or y= -x^2?

A. -x^2 is always smaller
B. y= x is always bigger
C. y= x is bigger only for x in between 0 and 1
D. -x^2 is bigger only for x in between 0 and -1

39. Which line of slope m= 3 passes through (-1, 1)?

A. y= -1 – 2x
B. y= 4 + 3x
C. y= 3x – 4
D. y= -2 – 3x

40. What is the peak point for y= -3x^2 + 6x – 2?

A. (1, 1)
B. (-1, -11)
C. (2, -2)
D. (0, -2)

41. In what direction does the graph of x= 5 run?

A. northeast
B. southeast
C. due east
D. due north

42. Where do y= 2x + 5 and 8x – 4y = 100 intersect?

A. (10, -5)
B. (10, 25)
C. (5, -15)
D. no solution

43. Simplify 5/10

A. 1/5

B. 2/3
C. 2/4
D. 1/2

44. Jenny has five coins totaling 65 cents in quarters and nickels. Create two equations.

A. n + q = 30 and n + q = 65
B. n + q = 30 and 5n + 25q = 65
C. 5n + 25q = 5 and n + q = 65
D. n + q = 5 and 5n + 25q = 65

45. Factor 2x^2 + 3x – 5.

A. [2x – 5] [x + 1]
B. [2x + 5] [x – 1]
C. [2x – 5] [x – 1]
D. [2x + 5] [x + 1]

46. Which parabola given below peaks at (0,1) and passes through (1,0)?

A. y= 1 – x^2
B. y= x^2 + 1
C. y= x^2 – 1
D. y= 2x^2 – 2

47. What is the probability of four consecutive coin tosses each being 'heads'?

A. 1/4
B. 1/8
C. 1/16
D. 1/2

48. How many possible outfit combinations come from 10 shirts, two slacks, and five ties?

A. 17
B. 25
C. 100
D. 20

49. What is the absolute distance between -4.8 and -9.5 on the number line?

A. -14.3
B. 14.3
C. -4.7
D. 4.7

50. The ratio of men to women in New York is 3:4. What is the fraction of men in NYC?

A. 3/4
B. 1/4
C. 1/3
D. 3/7

FORMULAS

AREA of a:		
	square	Area = side^2
	rectangle	Area = length × width
	parallelogram	Area = base × height
	triangle	Area = $\frac{1}{2}$ × base × height
	trapezoid	Area = $\frac{1}{2}$ × (base$_1$ + base$_2$) × height
	circle	Area = π × radius^2; π is approximately equal to 3.14.
PERIMETER of a:		
	square	Perimeter = 4 × side
	rectangle	Perimeter = 2 × length + 2 × width
	triangle	Perimeter = side$_1$ + side$_2$ + side$_3$
CIRCUMFERENCE of a circle		Circumference = π × diameter; π is approximately equal to 3.14.
VOLUME of a:		
	cube	Volume = edge^3
	rectangular solid	Volume = length × width × height
	square pyramid	Volume = $\frac{1}{3}$ × (base edge)^2 × height
	cylinder	Volume = π × radius^2 × height; π is approximately equal to 3.14.
	cone	Volume = $\frac{1}{3}$ × π × radius^2 × height; π is approximately equal to 3.14.
COORDINATE GEOMETRY		distance between points = $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$; (x_1, y_1) and (x_2, y_2) are two points in a plane. slope of a line = $\frac{y_2 - y_1}{x_2 - x_1}$; (x_1, y_1) and (x_2, y_2) are two points on the line.
PYTHAGOREAN RELATIONSHIP		$a^2 + b^2 = c^2$; a and b are legs and c the hypotenuse of a right triangle.
MEASURES OF CENTRAL TENDENCY		**mean** = $\frac{x_1 + x_2 + \ldots x_n}{n}$, where the x's are the values for which a mean is desired, and n is the total number of values for x. **median** = the middle value of an odd number of *ordered* scores, and halfway between the two middle values of an even number of *ordered* scores.
SIMPLE INTEREST		interest = principal × rate × time
DISTANCE		distance = rate × time
TOTAL COST		total cost = (number of units) × (price per unit)

ANSWERS

1. **Answer D:** Think 'PEMDAS': no Parenthesis, no Exponent. ==> Multiply 9 x 3 first.

2. **Answer A:** Since 9, 18, 27, 36, 45, 54 < 5 x 11 = 55 < 8,16,24,32,40,48,56

3. **Answer E:** Since speed is distance over time, 30 mi / 30 min = 1 mile per minute, 60 mph.

4. **Answer C:** Since Sam's dph is 3000 donuts / 6 hr = 500 dph, with Annie at 480 donuts / hr.

5. **Answer C:** Think 'PEMDAS': no Parenthesis, no Exponent. Compute 36 / 9 and 3 x 2 first.

6. **Answer C:** 8 x 3 = 24, this equals 6 x 4.

7. **Answer D:** 4 hr, 24 min – 220m / 50 mph = 4.4 hours, and 0.4 hours x 60 min/hr is 24 min

8. **Answer B:** 31C. Cumulative offset from average 28C needs to be zero. -3 -2 +3 +2 +1 -4 = -3 ==> missing temperature needs to add +3, and 31C does that

9. **Answer:** 1000 cu.in. – cube has six face areas of 100 sq.in., a 10-in. side, and V= 10(10)10

10. **Answer B:** x= 10, since A = [x+5] [x+5] = 225 or 15[15], then x+5 = 15, making x= 10

11. **Answer D:** 4.0 hr – Joe's extra speed of 20 mph needs 4 hours to close the 80-mile gap

12. **Answer D:** y = -2x – 2, since slope's 'rise over run' is: -10 – 2 over 4 – (-2) or -12/6 or -2

13. **Answer C:** 6/7 – doubling gives 180/210 … 18/21 … factoring by 3 gives 6/7

14. **Answer D:** 10.1 – think 3 degrees below zero and 7 degrees above zero for a 10-degree rise

15. **Answer D:** 65 – since hex is a bit smaller than a circle area of pi [5][5] or about 75

16. **Answer D:** 5 x 12, since Area = side x side, and only 5 x 12 is 60

17. **Answer C:** 3, 4, 5 since 3*3 + 4*4 = 5*5 or 9 + 16 = 25

18. **Answer B:** q + d + n = 11 and 25q + 10d + 5n = 165 for both coin total and value total.

19. **Answer D:** x= 1, -4 since factoring gives [x+4][x-1] = 0 or by using quadratic formula

20. **Answer A:** x= 5 since [x-5] [x-5] = 0 and quadratic formula shows b^2 – 4ac = 0 for one root

21. **Answer E:** -2 [0,4] to [1,2] 'rise over run' slope is 2-4 / 1-0 = -2

22. **Answer B:** 15, 30, 45 since 60 mph is 'a mile a minute' or 15 miles per 15 minutes

23. **Answer D:** 1 since sketching the points shows a 'rise over run' of 1

24. **Answer D:** y = -2x + 425,746 since the given line is y= -2x + 4/3 and slope m= -2

25. **Answer C:** [0,0][0,1] since x=0 has TWO y's of 0 and 1

26. **Answer E:** x > 2 since 3x > 6 and x > 2

27. **Answer B:** x= 21 since squaring both sides gives x+4 = 5*5 or x= 25 – 4

28. **Answer A:** 9pi since C= 2pi*r, then r= 3 … A = pi*r*r = pi[3]3 or 9pi

29. **Answer A:** 10 in. since V= pi*r*rh, then r*r = 25, making r= 5, and diameter is 2r = 10 in.

30. **Answer C:** 8 since sqrt[4*4*4] is 2*2*2 or 8

31. **Answer D:** 5/12 by simply multiplying [2/3][5/8] = [1/3][5/4] = 5/12

32. **Answer D:** 11 miles since same scaling gives 4 in. per 10 mi., and 4.4" is 10% more to 11 mi.

33. **Answer A:** x= 5, x< -5 x=5 means dividing by zero. x = -6 means taking sqrt [-1].

34. **Answer B:** 5 (1 + sqrt 5) since sqrt 25 is 5, and sqrt [5*5*5] is 5 sqrt 5, totaling 5 + 5 sqrt 5

35. **Answer C:** x^2 + 3x – 10 Since triangle Area = bh/2, multiply [x+5][2x-4] and take half.

36. **Answer E:** no real solution

-2x^2 opens the parabola downward, and peak at x = -b/2a or x = 6/4 gives y = -2[9/4] + 6[3/2] – 20 = -9/2 + 9 -20 < 0. A downward opening parabola with a peak value less than zero can never equal zero ==> no real solution

37. **Answer D:** P= 5, Q= 50 – demand equals supply at crossing, and 100 – 10P = 5P + 25

38. **Answer D:** -x^2 is bigger only for x in between 0 and -1 as seen by sketching the functions

39. **Answer B:** y= 4 + 3x since m= 3 needs a '+3x' term, and (-1,1) works for option (b

40. **Answer A:** (1, 1) since extreme occurs at x= -b/2a = -6/-6 = 1, and parabola opens down

41. **Answer D:** due north since x= 5 is a vertical line

42. **Answer E:** no solution, since different lines with similar slope [m= 2] never touch

43. **Answer D:** Divide both 5 and 10 by 5. 5/10= 1/2

44. **Answer E:** n + q = 5 and 5n + 25q = 65 with nickel 'n' worth 5 cents and quarter q, 25 cents

45. **Answer B:** [2x + 5] [x – 1] since factors must have opposite signs, and 5x – 2x gives '+3x'

46. **Answer A:** y= 1 – x^2 => 'peak' means opening down with a '-x^2' term, and (1,0) plots in [a]

47. **Answer C:** 1/16 since P= (1/2) ^4 = (1/2)(1/2)(1/2)(1/2)

48. **Answer C:** 100 since 10 shirts x 2 slacks means 20 combos with one tie and 100 with 5 ties

49. **Answer D:** 4.7 since /-4.8 – [-9.5]/ = /-4.8 + 9.5/ = 9.5 – 4.8 = 4.7, and absolutes are +

50. **Answer E:** 3/7 since the total of 3M and 4W is 7, and men comprise 3 of the 7