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# GED Test Review

The General Educational Development Test, commonly known as the GED or high school equivalency degree, is a standardized test and is the only high school equivalency test recognized in all 50 USA states.

Currently, GED is a computer-based test. Official computer-based tests are given at test centers all over the country. There are four subject area tests on GED:

- Reasoning Through Language Arts,
- Mathematical Reasoning,
- Social Studies,
- Science

The GED Mathematical Reasoning test is a 115-minute, single-section test that covers basic mathematics topics, quantitative problem-solving and algebraic questions. There are two parts on Mathematical Reasoning section. The first part contains 5 questions where calculators are not permitted. The second part contains 41 test questions. Calculator is allowed in the second part.

Here is a complete GED Mathematical Reasoning Test. Take this practice test to see what score you'll be able to receive on a real GED test.

Good luck!

## Time to refine your skill with a practice examination

Take a practice GED Math Test to simulate the test day experience. After you've finished, score your test using the answer key.

### Before You Start

- You'll need a pencil and a calculator to take the test.
- There are two types of questions:
  - Multiple choice questions: for each of these questions, there are four or more possible answers. Choose which one is best.
  - Grid-ins questions: for these questions, write your answer in the box provided.
- It's okay to guess. You won't lose any points if you're wrong.
- The GED® Mathematical Reasoning test contains a formula sheet, which displays formulas relating to geometric measurement and certain algebra concepts. Formulas are provided to test-takers so that they may focus on application, rather than the memorization, of formulas.
- After you've finished the test, review the answer key to see where you went wrong and what areas you need to improve.

**Good luck!**

# GED Mathematical Reasoning Practice Test

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2019 - 2020

**Two Parts**

**Total number of questions: 46**

**Part 1 (Non-Calculator): 5 questions**

**Part 2 (Calculator): 41 questions**

**Total time for two parts: 115 Minutes**

## GED Test Mathematics Formula Sheet

### Area of a:

Parallelogram

$$A = bh$$

Trapezoid

$$A = \frac{1}{2}h(b_1 + b_2)$$

### Surface Area and Volume of a:

Rectangular/Right Prism

$$SA = ph + 2B$$

$$V = Bh$$

Cylinder

$$SA = 2\pi rh + 2\pi r^2$$

$$V = \pi r^2 h$$

Pyramid

$$SA = \frac{1}{2}ps + B$$

$$V = \frac{1}{3}Bh$$

Cone

$$SA = \pi r + \pi r^2$$

$$V = \frac{1}{3}\pi r^2 h$$

Sphere

$$SA = 4\pi r^2$$

$$V = \frac{4}{3}\pi r^3$$

( $p$  = perimeter of base  $B$ ;  $\pi = 3.14$ )

### Algebra

Slope of a line

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

Slope-intercept form of the equation  
of a line

$$y = mx + b$$

Point-slope form of the Equation of a  
line

$$y - y_1 = m(x - x_1)$$

Standard form of a Quadratic equation

$$y = ax^2 + bx + c$$

Quadratic formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Pythagorean theorem

$$a^2 + b^2 = c^2$$

Simple interest

$$I = prt$$

( $I$  = interest,  $p$  = principal,  $r$  = rate,  $t$  = time)

# GED Mathematical Reasoning

## Practice Test 1

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### Part 1 (Non-Calculator)

**5 questions**

**Total time for two parts (Non-Calculator, and Calculator parts): 115 Minutes**

**You may NOT use a calculator on this part.**

**YOU MAY NOT USE YOUR CALCULATOR ON THIS SECTION.**

- 1) 11 yards 6 feet and 4 inches equals to how many inches?
  - A. 388
  - B. 468
  - C. 472
  - D. 476
  
- 2) 5 less than twice a positive integer is 83. What is the integer?
  - A. 39
  - B. 41
  - C. 42
  - D. 44
  
- 3) A shirt costing \$200 is discounted 15%. After a month, the shirt is discounted another 15%. Which of the following expressions can be used to find the selling price of the shirt?
  - A.  $(200)(0.70)$
  - B.  $(200) - 200(0.30)$
  - C.  $(200)(0.15) - (200)(0.15)$
  - D.  $(200)(0.85)(0.85)$

4) Which of the following points lies on the line  $2x + 4y = 10$

- A. (2, 1)
- B. (-1, 3)
- C. (-2, 2)
- D. (2, 2)

5)  $5 + 8 \times (-2) - [4 + 22 \times 5] \div 6 = ?$

Write your answer in the box below.

# GED Mathematical Reasoning

## Practice Test

---

### (Calculator)

**41 questions**

**Total time for two sections (Non-Calculator, and Calculator sections): 115  
Minutes**

**You may use a calculator on this section.**

- 6) The price of a car was \$20,000 in 2014, \$16,000 in 2015 and \$12,800 in 2016. What is the rate of depreciation of the price of car per year?
- A. 15 %
  - B. 20 %
  - C. 25 %
  - D. 30 %
- 7) The width of a box is one third of its length. The height of the box is one third of its width. If the length of the box is 27 cm, what is the volume of the box?
- A.  $81 \text{ cm}^3$
  - B.  $162 \text{ cm}^3$
  - C.  $243 \text{ cm}^3$
  - D.  $729 \text{ cm}^3$
- 8) If 60 % of A is 20 % of B, then B is what percent of A?
- A. 3 %
  - B. 30 %
  - C. 200 %
  - D. 300 %
- 9) How many possible outfit combinations come from six shirts, three slacks, and five ties?

Write your answer in the box below.

10) A ladder leans against a wall forming a  $60^\circ$  angle between the ground and the ladder. If the bottom of the ladder is 30 feet away from the wall, how long is the ladder?

- A. 30 feet
- B. 40 feet
- C. 50 feet
- D. 60 feet

11) When a number is subtracted from 24 and the difference is divided by that number, the result is 3. What is the value of the number?

- A. 2
- B. 4
- C. 6
- D. 12

12) An angle is equal to one fifth of its supplement. What is the measure of that angle?

- A. 20
- B. 30
- C. 45
- D. 60

13) John traveled 150 km in 6 hours and Alice traveled 180 km in 4 hours. What is the ratio of the average speed of John to average speed of Alice?

- A. 3 : 2
- B. 2 : 3
- C. 5 : 9
- D. 5 : 6

14) If 40 % of a class are girls, and 25 % of girls play tennis, what percent of the class play tennis?

- A. 10 %
- B. 15%
- C. 20 %
- D. 40 %

15) What is the value of  $y$  in the following system of equation?

$$3x - 4y = -20$$

$$-x + 2y = 10$$

Write your answer in the box below.

16) In five successive hours, a car travels 40 km, 45 km, 50 km, 35 km and 55 km. In the next five hours, it travels with an average speed of 50 km per hour. Find the total distance the car traveled in 10 hours.

- A. 425 km
- B. 450 km
- C. 475 km
- D. 500 km

17) How long does a 420–miles trip take moving at 50 miles per hour (mph)?

- A. 4 hours
- B. 6 hours and 24 minutes
- C. 8 hours and 24 minutes
- D. 8 hours and 30 minutes

18) What is the difference of smallest 4–digit number and biggest 4–digit number?

- A. 6666
- B. 6789
- C. 8888
- D. 8999

19) What is the value of  $6^4$  ?

Write your answer in the box below.

20) Right triangle ABC has two legs of lengths 6 cm (AB) and 8 cm (AC). What is the length of the third side (BC)?

- A. 4 cm
- B. 6 cm
- C. 8 cm
- D. 10 cm

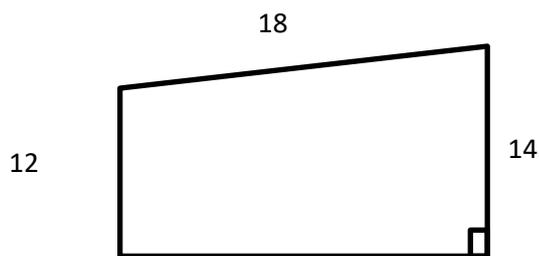
21) The ratio of boys to girls in a school is 2:3. If there are 600 students in a school, how many boys are in the school.

Write your answer in the box below.

22) 25 is What percent of 20?

- A. 20 %
- B. 25 %
- C. 125 %
- D. 150 %

23) The perimeter of the trapezoid below is 54. What is its area?



Write your answer in the box below.

24) Two third of 18 is equal to  $\frac{2}{5}$  of what number?

- A. 12
- B. 20
- C. 30
- D. 60

25) The marked price of a computer is  $D$  dollar. Its price decreased by 20% in January and later increased by 10 % in February. What is the final price of the computer in  $D$  dollar?

- A.  $0.80 D$
- B.  $0.88 D$
- C.  $0.90 D$
- D.  $1.20 D$

26) The area of a circle is  $64 \pi$ . What is the circumference of the circle?

- A.  $8 \pi$
- B.  $16 \pi$
- C.  $32 \pi$
- D.  $64 \pi$

27) A \$40 shirt now selling for \$28 is discounted by what percent?

- A. 20 %
- B. 30 %
- C. 40 %
- D. 60 %

28) In 1999, the average worker's income increased \$2,000 per year starting from \$24,000 annual salary. Which equation represents income greater than average? ( $I$  = income,  $x$  = number of years after 1999)

- A.  $I > 2000 x + 24000$
- B.  $I > -2000 x + 24000$
- C.  $I < -2000 x + 24000$
- D.  $I < 2000 x - 24000$

29) From last year, the price of gasoline has increased from \$1.25 per gallon to \$1.75 per gallon. The new price is what percent of the original price?

- A. 72 %
- B. 120 %
- C. 140 %
- D. 160 %

30) A boat sails 40 miles south and then 30 miles east. How far is the boat from its start point?

- A. 45 miles
- B. 50 miles
- C. 60 miles
- D. 70 miles

31) Which of the following could be the product of two consecutive prime numbers?

- A. 2
- B. 10
- C. 14
- D. 15

32) Sophia purchased a sofa for \$530.40. The sofa is regularly priced at \$624. What was the percent discount Sophia received on the sofa?

- A. 12%
- B. 15%
- C. 20%
- D. 25%

33) The score of Emma was half as that of Ava and the score of Mia was twice that of Ava. If the score of Mia was 60, what is the score of Emma?

- A. 12
- B. 15
- C. 20
- D. 30

34) A bag contains 18 balls: two green, five black, eight blue, a brown, a red and one white. If 17 balls are removed from the bag at random, what is the probability that a brown ball has been removed?

- A.  $\frac{1}{9}$
- B.  $\frac{1}{6}$
- C.  $\frac{16}{17}$
- D.  $\frac{17}{18}$

35) The average of five consecutive numbers is 38. What is the smallest number?

- A. 38
- B. 36
- C. 34
- D. 12

36) How many tiles of  $8 \text{ cm}^2$  is needed to cover a floor of dimension 6 cm by 24 cm?

- A. 6
- B. 12
- C. 18
- D. 24

37) A rope weighs 600 grams per meter of length. What is the weight in kilograms of 12.2 meters of this rope? (1 kilograms = 1000 grams)

- A. 0.0732
- B. 0.732
- C. 7.32
- D. 7,320

38) A chemical solution contains 4% alcohol. If there is 24 ml of alcohol, what is the volume of the solution?

- A. 240 ml
- B. 480 ml
- C. 600 ml
- D. 1200 ml

39) The average weight of 18 girls in a class is 60 kg and the average weight of 32 boys in the same class is 62 kg. What is the average weight of all the 50 students in that class?

- A. 60
- B. 61.28
- C. 61.68
- D. 62.90

40) The price of a laptop is decreased by 10% to \$360. What is its original price?

- A. 320
- B. 380
- C. 400
- D. 450

41) What is the median of these numbers? 4, 9, 13, 8, 15, 18, 5

- A. 8
- B. 9
- C. 13
- D. 15

42) The radius of a cylinder is 8 inches and its height is 12 inches. What is the surface area of the cylinder in square inches?

Write your answer in the box below. ( $\pi$  equals 3.14)

43) The average of 13, 15, 20 and  $x$  is 18. What is the value of  $x$ ?

Write your answer in the box below.

44) The price of a sofa is decreased by 25% to \$420. What was its original price?

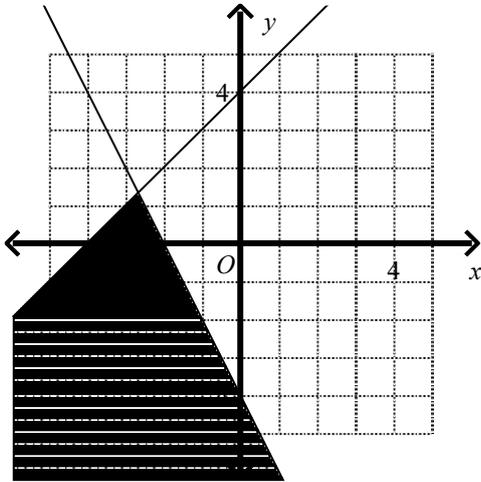
- A. \$480
- B. \$520
- C. \$560
- D. \$600

45) Which graph corresponds to the following inequalities?

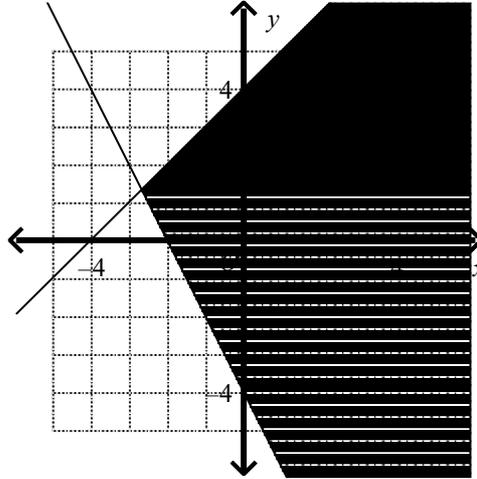
$$y \leq x + 4$$

$$2x + y \leq -4$$

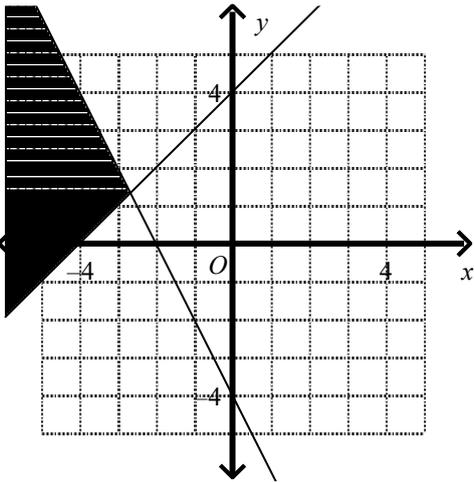
A.



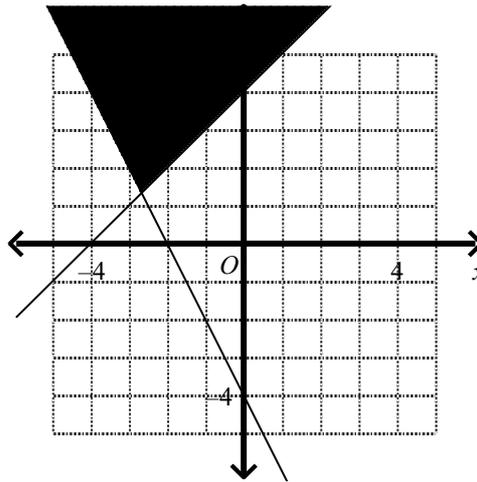
B.



C.



D.



46) A bank is offering 4.5% simple interest on a savings account. If you deposit \$8,000, how much interest will you earn in five years?

- A. \$360
- B. \$720
- C. \$1800
- D. \$3600

**End of GED Mathematical Reasoning Practice Test.**

## ***Mathematical Reasoning Practice Test***

### ***Answers and Explanations***

Now, it's time to review your results to see where you went wrong and what areas you need to improve!

**1) Choice C is correct**

$$11 \times 36 + 6 \times 12 + 4 = 472$$

**2) Choice D is correct**

Let  $x$  be the integer. Then:

$$2x - 5 = 83$$

Add 5 both sides:  $2x = 88$

Divide both sides by 2:  $x = 44$

**3) Choice D is correct**

To find the discount, multiply the number by  $(100\% - \text{rate of discount})$ .

Therefore, for the first discount we get:  $(200) (100\% - 15\%) = (200) (0.85) = 170$

For the next 15 % discount:  $(200) (0.85) (0.85)$

**4) Choice B is correct**

Plug in each pair of number in the equation:

E.  $(2, 1): \quad 2(2) + 4(1) = 8$

F.  $(-1, 3): \quad 2(-1) + 4(3) = 10$

G.  $(-2, 2): \quad 2(-2) + 4(2) = 4$

H.  $(2, 2): \quad 2(2) + 4(2) = 12$

**5) The answer is: - 30**

Use PEMDAS (order of operation):

$$5 + 8 \times (-2) - [4 + 22 \times 5] \div 6 = 5 + 8 \times (-2) - [4 + 110] \div 6 = 5 + 8 \times (-2) - [114] \div 6 = 5 + (-16) - 19 = 5 + (-16) - 19 = -11 - 19 = -30$$

**6) Choice B is correct**

Use this formula: Percent of Change

$$\frac{\text{New Value} - \text{Old Value}}{\text{Old Value}} \times 100\%$$

$$\frac{16000 - 20000}{20000} \times 100\% = 20\% \text{ and } \frac{12800 - 16000}{16000} \times 100\% = 20\%$$

**7) Choice D is correct**

If the length of the box is 27, then the width of the box is one third of it, 9, and the height of the box is 3 (one third of the width). The volume of the box is:

$$V = lwh = (27)(9)(3) = 729$$

**8) Choice D is correct**

Write the equation and solve for B:

$$0.60A = 0.20B, \text{ divide both sides by } 0.20, \text{ then:}$$

$$0.60/0.20 A = B, \text{ therefore:}$$

$$B = 3A, \text{ and } B \text{ is } 3 \text{ times of } A \text{ or it's } 300\% \text{ of } A.$$

**9) The answer is 90.**

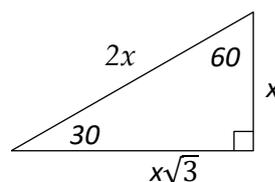
To find the number of possible outfit combinations, multiply number of options for each factor:

$$6 \times 3 \times 5 = 90$$

**10) Choice D is correct**

The relationship among all sides of special right triangle

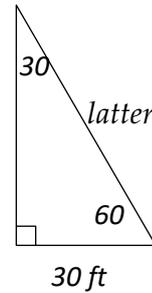
$30^\circ - 60^\circ - 90^\circ$  is provided in this triangle:



In this triangle, the opposite side of  $30^\circ$  angle is half of the hypotenuse.

Draw the shape for this question:

The latter is the hypotenuse. Therefore, the latter is 60 ft.



**11) Choice C is correct**

Let  $x$  be the number. Write the equation and solve for  $x$ .

$$(24 - x) \div x = 3$$

Multiply both sides by  $x$ .

$(24 - x) = 3x$ , then add  $x$  both sides.  $24 = 4x$ , now divide both sides by 4.

$$x = 6$$

**12) Choice B is correct**

The sum of supplement angles is 180. Let  $x$  be that angle. Therefore,

$$x + 5x = 180$$

$6x = 180$ , divide both sides by 6:  $x = 30$

**13) Choice C is correct**

The average speed of John is:  $150 \div 6 = 25$  km

The average speed of Alice is:  $180 \div 4 = 45$  km

Write the ratio and simplify.

$$25 : 45 \Rightarrow 5 : 9$$

**14) Choice A is correct**

The percent of girls playing tennis is:  $40\% \times 25\% = 0.40 \times 0.25 = 0.10 = 10\%$

**15) The answer is 5.**

Solving Systems of Equations by Elimination

$$\begin{array}{r} 3x - 4y = -20 \\ -x + 2y = 10 \\ \hline \end{array}$$

Multiply the second equation by 3, then add it to the first equation.

$$\begin{array}{r} 3x - 4y = -20 \\ 3(-x + 2y = 10) \Rightarrow -3x + 6y = 30 \\ \hline \end{array} \Rightarrow 2y = 10 \Rightarrow y = 5$$

**16) Choice C is correct**

Add the first 5 numbers.  $40 + 45 + 50 + 35 + 55 = 225$

To find the distance traveled in the next 5 hours, multiply the average by number of hours.

$$\text{Distance} = \text{Average} \times \text{Rate} = 50 \times 5 = 250$$

Add both numbers.

$$250 + 225 = 475$$

**17) Choice C is correct**

Use distance formula:

$$\text{Distance} = \text{Rate} \times \text{time} \Rightarrow 420 = 50 \times T, \text{ divide both sides by } 50. 420 / 50 = T \Rightarrow T = 8.4 \text{ hours.}$$

Change hours to minutes for the decimal part.  $0.4 \text{ hours} = 0.4 \times 60 = 24 \text{ minutes.}$

**18) Choice D is correct**

Smallest 4-digit number is 1000, and biggest 4-digit number is 9999. The difference is: 8999

**19) The answer is 1296**

$$6^4 = 6 \times 6 \times 6 \times 6 = 1296$$

**20) Choice D is correct**

Use Pythagorean Theorem:  $a^2 + b^2 = c^2$

$$6^2 + 8^2 = c^2 \Rightarrow 100 = c^2 \Rightarrow c = 10$$

**21) The answer is 240.**

The ratio of boy to girls is 2:3. Therefore, there are 2 boys out of 5 students. To find the answer, first divide the total number of students by 5, then multiply the result by 2.

$$600 \div 5 = 120 \Rightarrow 120 \times 2 = 240$$

**22) Choice C is correct**

Use percent formula:

$$\text{part} = \frac{\text{percent}}{100} \times \text{whole}$$

$$25 = \frac{\text{percent}}{100} \times 20 \Rightarrow 25 = \frac{\text{percent} \times 20}{100} \Rightarrow 25 = \frac{\text{percent} \times 2}{10}, \text{ multiply both sides by 10.}$$

$$250 = \text{percent} \times 2, \text{ divide both sides by 2.}$$

$$125 = \text{percent}$$

**23) The answer is 130.**

The perimeter of the trapezoid is 54.

$$\text{Therefore, the missing side (height) is } = 54 - 18 - 12 - 14 = 10$$

$$\text{Area of a trapezoid: } A = \frac{1}{2} h (b_1 + b_2) = \frac{1}{2} (10) (12 + 14) = 130$$

**24) Choice C is correct**

Let  $x$  be the number. Write the equation and solve for  $x$ .

$$\frac{2}{3} \times 18 = \frac{2}{5} \cdot x \Rightarrow \frac{2 \times 18}{3} = \frac{2x}{5}, \text{ use cross multiplication to solve for } x.$$

$$5 \times 36 = 2x \times 3 \Rightarrow 180 = 6x \Rightarrow x = 30$$

**25) Choice B is correct**

To find the discount, multiply the number by (100% – rate of discount).

$$\text{Therefore, for the first discount we get: } (D) (100\% - 20\%) = (D) (0.80) = 0.80 D$$

$$\text{For increase of 10 \%: } (0.85 D) (100\% + 10\%) = (0.85 D) (1.10) = 0.88 D = 88\% \text{ of } D$$

**26) Choice B is correct**

Use the formula of areas of circles.

$$\text{Area} = \pi r^2 \Rightarrow 64 \pi = \pi r^2 \Rightarrow 64 = r^2 \Rightarrow r = 8$$

Radius of the circle is 8. Now, use the circumference formula:

$$\text{Circumference} = 2\pi r = 2\pi (8) = 16 \pi$$

**27) Choice B is correct**

Use the formula for Percent of Change

$$\frac{\text{New Value} - \text{Old Value}}{\text{Old Value}} \times 100 \%$$

$$\frac{28 - 40}{40} \times 100 \% = -30 \% \text{ (negative sign here means that the new price is less than old price).}$$

**28) Choice A is correct**

Let  $x$  be the number of years. Therefore, \$2,000 per year equals  $2000x$ .

starting from \$24,000 annual salary means you should add that amount to  $2000x$ .

Income more than that is:

$$I > 2000x + 24000$$

**29) Choice C is correct**

The question is this: 1.75 is what percent of 1.25?

Use percent formula:

$$\text{part} = \frac{\text{percent}}{100} \times \text{whole}$$

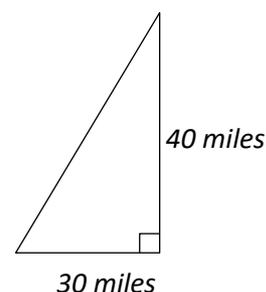
$$1.75 = \frac{\text{percent}}{100} \times 1.25 \Rightarrow 1.75 = \frac{\text{percent} \times 1.25}{100} \Rightarrow 175 = \text{percent} \times 1.25 \Rightarrow \text{percent} = \frac{175}{1.25} = 140$$

**30) Choice B is correct**

Use the information provided in the question to draw the shape.

Use Pythagorean Theorem:  $a^2 + b^2 = c^2$

$$40^2 + 30^2 = c^2 \Rightarrow 1600 + 900 = c^2 \Rightarrow 2500 = c^2 \Rightarrow c = 50$$



**31) Choice D is correct**

Some of prime numbers are: 2, 3, 5, 7, 11, 13

Find the product of two consecutive prime numbers:

$$2 \times 3 = 6 \text{ (not in the options)}$$

$$3 \times 5 = 15 \text{ (bingo!)}$$

$$5 \times 7 = 35 \text{ (not in the options)}$$

**32) Choice B is correct**

The question is this: 530.40 is what percent of 624?

Use percent formula:

$$\text{part} = \frac{\text{percent}}{100} \times \text{whole}$$

$$530.40 = \frac{\text{percent}}{100} \times 624 \Rightarrow 530.40 = \frac{\text{percent} \times 624}{100} \Rightarrow 53040 = \text{percent} \times 624 \Rightarrow$$

$$\text{percent} = \frac{53040}{624} = 85$$

530.40 is 85 % of 624. Therefore, the discount is:  $100\% - 85\% = 15\%$

**33) Choice B is correct**

If the score of Mia was 60, therefore the score of Ava is 30. Since, the score of Emma was half as that of Ava, therefore, the score of Emma is 15.

**34) Choice D is correct**

If 17 balls are removed from the bag at random, there will be one ball in the bag.

The probability of choosing a brown ball is 1 out of 18. Therefore, the probability of not choosing a brown ball is 17 out of 18 and the probability of having not a brown ball after removing 17 balls is the same.

**35) Choice B is correct**

Let  $x$  be the smallest number. Then, these are the numbers:

$$x, x + 1, x + 2, x + 3, x + 4$$

$$\text{average} = \frac{\text{sum of terms}}{\text{number of terms}} \Rightarrow 38 = \frac{x+(x+1)+(x+2)+(x+3)+(x+4)}{5} \Rightarrow 38 = \frac{5x+10}{5} \Rightarrow 190 = 5x + 10 \Rightarrow$$

$$180 = 5x \Rightarrow x = 36$$

**36) Choice C is correct**

The area of the floor is:  $6 \text{ cm} \times 24 \text{ cm} = 144 \text{ cm}^2$

The number of tiles needed =  $144 \div 8 = 18$

**37) Choice C is correct**

The weight of 12.2 meters of this rope is:  $12.2 \times 600 \text{ g} = 7320 \text{ g}$

$1 \text{ kg} = 1000 \text{ g}$ , therefore,  $7320 \text{ g} \div 1000 = 7.32 \text{ kg}$

**38) Choice C is correct**

4% of the volume of the solution is alcohol. Let  $x$  be the volume of the solution.

Then: 4% of  $x = 24 \text{ ml} \Rightarrow 0.04 x = 24 \Rightarrow x = 24 \div 0.04 = 600$

**39) Choice B is correct**

$$\text{average} = \frac{\text{sum of terms}}{\text{number of terms}}$$

The sum of the weight of all girls is:  $18 \times 60 = 1080 \text{ kg}$

The sum of the weight of all boys is:  $32 \times 62 = 1984 \text{ kg}$

The sum of the weight of all students is:  $1080 + 1984 = 3064 \text{ kg}$

$$\text{average} = \frac{3064}{50} = 61.28$$

**40) Choice C is correct**

Let  $x$  be the original price.

If the price of a laptop is decreased by 10% to \$360, then:

$$90 \% \text{ of } x = 360 \Rightarrow 0.90x = 360 \Rightarrow x = 360 \div 0.90 = 400$$

**41) Choice B is correct**

Write the numbers in order:

4, 5, 8, 9, 13, 15, 18

Since we have 7 numbers (7 is odd), then the median is the number in the middle, which is 9.

**42) The answer is 1004.8.**

Surface Area of a cylinder =  $2\pi r (r + h)$ ,

The radius of the cylinder is 8 inches and its height is 12 inches.  $\pi$  is about 3.14. Then:

Surface Area of a cylinder =  $2 (\pi) (8) (8 + 12) = 320 \pi = 1004.8$

**43) The answer is 24.**

$$\text{average} = \frac{\text{sum of terms}}{\text{number of terms}} \Rightarrow 18 = \frac{13+15+20+x}{4} \Rightarrow 72 = 48 + x \Rightarrow x = 24$$

**44) Choice C is correct**

Let  $x$  be the original price.

If the price of the sofa is decreased by 25% to \$420, then:  $75\% \text{ of } x = 420 \Rightarrow 0.75x = 420$   
 $\Rightarrow x = 420 \div 0.75 = 560$

**45) Choice A is correct**

For each option, choose a point in the solution part and check it on both inequalities.

$$y \leq x + 4$$

$$2x + y \leq -4$$

A. Point  $(-4, -4)$  is in the solution section. Let's check the point in both inequalities.

$$-4 \leq -4 + 4, \text{ It works}$$

$$2(-4) + (-4) \leq -4 \Rightarrow -12 \leq -4, \text{ it works (this point works in both)}$$

B. Let's choose this point  $(0, 0)$

$$0 \leq 0 + 4, \text{ It works}$$

$$2(0) + (0) \leq -4, \text{ That's not true!}$$

C. Let's choose this point  $(-5, 0)$

$$0 \leq -5 + 4, \text{ That's not true!}$$

D. Let's choose this point  $(0, 5)$

$$5 \leq 0 + 4, \text{ That's not true!}$$

**46) Choice C is correct**

Use simple interest formula:

$$I = prt$$

(I = interest, p = principal, r = rate, t = time)

$$I = (8000)(0.045)(5) = 1800$$

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