



# Teas Maths Practice Set

## Question 1.

A developer has a plan for a 75-home neighborhood, with each house having a lot size of 30 m  $\times$  20 m. If the streets between the houses will add at least 20% more area, which of the following commercial real estate listings would be the closest to the needed size? Note that a hectare (ha) is equivalent to 10,000 m<sup>2</sup>.

- A) A 5.1 ha commercial plot is available in Northampton.
- B) There is a 200 m  $\times$  300 m plot for development in Southampton.
- C) A plot in Essex is 4.5 ha and near the water.
- D) Near Swindon, there is a 500 m  $\times$  110 m area for residential development.

## Question 2.

A rectangle has an area of 616 ft<sup>2</sup> and a width of 22 ft. What is the perimeter of this rectangle?

- A) 98 ft
- B) 100 ft
- C) 104 ft
- D) 108 ft

## Question 3.

The slope of the line passing through points (3, 2) and (7, 10) is:

- A) 2
- B) 3
- C) 4
- D) 8

## Question 4.

If the semester grade combines tests (50%), quizzes (35%), and homework (15%), how would you calculate overall average?

- A) Multiply each average by its weight then sum results
- B) Add averages then divide by 3
- C) Average tests only
- D) Add quizzes and homework only

## Question 5.

A clothing store is offering a 15% discount on a jacket that costs \$120. What is the sale price?

- A) \$102
- B) \$108
- C) \$105
- D) \$110

## Question 6.

Simplify:  $4^3 - 3^2$ .

- A) 43
- B) 49
- C) 55
- D) 52

## Question 7.

Which number is 20% greater than 150?

- A) 170
- B) 180
- C) 190
- D) 200

## Question 8.

A recipe requires  $\frac{2}{3}$  cup of sugar; you want to make half the recipe. How much sugar is needed?

- A)  $\frac{1}{3}$  cup
- B)  $\frac{1}{2}$  cup
- C)  $\frac{1}{4}$  cup
- D)  $\frac{1}{6}$  cup

### Question 9.

Simplify:  $3(x - 4) + 5x$  when  $x = 3$ .

- A) 12
- B) 18
- C) 24
- D) 27

### Question 10.

The sum of three consecutive even numbers is 96. What is the largest number?

- A) 30
- B) 34
- C) 36
- D) 38

### Question 11.

If 40% of a class are male and there are 18 males, how many students are in the class?

- A) 36
- B) 40
- C) 45
- D) 50

### Question 12.

Solve for  $x$ :  $5x + 12 = 3x + 32$

- A) 7
- B) 8
- C) 10
- D) 12

### Question 13.

Solve for  $x$ :  $2x/5 + 3 = 7$

- A) 6
- B) 5
- C) 7
- D) 10

### Question 14.

A cylinder has height 12 cm and diameter 10 cm. What is its volume? (Use  $\pi \approx 3.14$ )

- A)  $282 \text{ cm}^3$
- B)  $471 \text{ cm}^3$
- C)  $942 \text{ cm}^3$
- D)  $376 \text{ cm}^3$

### Question 15.

A recipe calls for 2.5 cups of flour to make 12 cookies. How much flour is needed for 30 cookies?

- A) 5.5 cups
- B) 6.25 cups
- C) 7.0 cups
- D) 8.0 cups

### Question 16.

Which of these decimals is closest to 5885?

- A) 0.56
- B) 0.62
- C) 0.64
- D) 0.75

### Question 17.

If an item's price decreases by 12% and the original price was \$50, what is the sale price?

- A) \$42
- B) \$44
- C) \$45
- D) \$38

### Question 18.

What is the median of: 19, 23, 13, 29, 25, 17, 15?

- A) 17
- B) 19
- C) 21
- D) 23

### Question 19.

A cylindrical tank holds 500 L. 1 cubic meter is 1000 L. What is the volume in  $\text{m}^3$ ?

- A)  $0.2 \text{ m}^3$
- B)  $0.4 \text{ m}^3$
- C)  $0.5 \text{ m}^3$
- D)  $2 \text{ m}^3$

### Question 20.

If  $2x-5=3x+10$ , what is  $x$ ?

- A) -15
- B) 15
- C) 5
- D) -5

### Question 21.

The sum of four consecutive odd numbers is 152. What is the smallest number?

- A) 35
- B) 37
- C) 39
- D) 41

## Question 22.

What is the solution to:  $\frac{3}{4} \times x = 18$ ?

- A) 13
- B) 18
- C) 24
- D) 30

## Question 23.

Simplify:  $2(5x-3)+3(x+4)$  when  $x=2$

- A) 28
- B) 32
- C) 24
- D) 34

## Question 24.

For the numbers 5, 12, 18, 22, what is the range?

- A) 12
- B) 13
- C) 15
- D) 17

## Question 25.

Which is the next prime after 29?

- A) 31
- B) 33
- C) 35
- D) 37

## Question 26.

What is the mean of 8, 11, 18, 23, 25?

- A) 15
- B) 17

- C) 17.8
- D) 18

### Question 27.

A triangle has two sides measuring 7 cm and 12 cm. The perimeter is 30 cm. What is the third side?

- A) 11 cm
- B) 12 cm
- C) 13 cm
- D) 14 cm

### Question 28.

If  $x$  is 2 greater than  $y$  and the sum of  $x+y=22$ , what is the value of  $y$ ?

- A) 8
- B) 10
- C) 12
- D) 14

### Question 29.

You invest \$800 at 4% simple annual interest for 3 years. What is the interest earned?

- A) \$48
- B) \$84
- C) \$96
- D) \$104

### Question 30.

A recipe for 8 servings calls for 2 cups of sugar. If you want to prepare 20 servings, how many cups of sugar do you need?

- A) 4.5
- B) 5
- C) 5.25
- D) 5.5

### Question 31.

A car travels 150 miles using 5 gallons of gas. How far can it travel on 8 gallons?

- A) 230 miles
- B) 240 miles
- C) 250 miles
- D) 260 miles

### Question 32.

You invest \$1,200 in an account that earns 5% simple interest per year. How much total money will you have after 4 years?

- A) \$1,400
- B) \$1,440
- C) \$1,500
- D) \$1,600

### Question 33.

A cylindrical tank has a radius of 4 m and height 10 m. What is the tank's capacity in cubic meters? Use  $\pi \approx 3.14$ .

- A) 500.96 m<sup>3</sup>
- B) 502.4 m<sup>3</sup>
- C) 600 m<sup>3</sup>
- D) 750 m<sup>3</sup>

### Question 34.

An employee's salary is \$52,000 per year. If they receive a 6% raise, what will their new salary be?

- A) \$54,120
- B) \$55,120
- C) \$55,200
- D) \$56,120



### Question 35.

A shipment contains 360 smartphones packed equally into 12 boxes. If 3 boxes are unopened, what percentage of the shipment has been opened?

- A) 75%
- B) 67%
- C) 70%
- D) 65%

### Question 36.

John invested \$5000 at 4% annual interest compounded yearly. What will be his total amount after 3 years? (Use formula:  $A = P(1 + r)^t$ )

- A) \$5616.32
- B) \$5600.00
- C) \$5724.70
- D) \$5700.50

### Question 37.

A recipe requires  $\frac{3}{4}$  cup of oil for 6 servings. How much oil is required for 10 servings?

- A) 1 cup
- B)  $1\frac{1}{4}$  cup
- C)  $1\frac{1}{4}$  cup
- D)  $1\frac{1}{2}$  cup

### Question 38.

A sweater originally priced at \$85 is discounted by 25%. What is the discount amount?

- A) \$20
- B) \$21.25
- C) \$22
- D) \$23

### Question 39.

You mix 2 parts red paint with 5 parts white paint. How many liters of white paint do you need to mix with 9 liters of red?

- A) 18 liters
- B) 20 liters
- C) 22.5 liters
- D) 25 liters

### Question 40.

How many square yards are in a 15 ft by 12 ft room?

- A) 20
- B) 24
- C) 23
- D) 30

### Question 41.

You borrowed \$1000 at 6% annual simple interest. How much interest will you pay after 9 months?

- A) \$45
- B) \$54
- C) \$60
- D) \$90

### Question 42.

A pizza is cut into 12 slices. If 7 slices are eaten, what fraction of the pizza remains?

- A)  $\frac{5}{12}$
- B)  $\frac{7}{12}$
- C)  $\frac{1}{2}$
- D)  $\frac{5}{7}$

### Question 43.

A swimming pool is 25 meters long, 10 meters wide, and 2 meters deep. How many cubic meters of water does it hold?

- A) 450
- B) 500
- C) 600
- D) 580

### Question 44.

A 5% salt solution contains 10 g of salt. How much solution is present?

- A) 180 g
- B) 200 g
- C) 250 g
- D) 300 g

### Question 45.

The probability of randomly selecting a multiple of 3 from numbers 1 through 15 is:

- A)  $\frac{1}{3}$
- B)  $\frac{1}{4}$
- C)  $\frac{1}{5}$
- D)  $\frac{1}{6}$

# Answer Key

## With Explanations

1. **Answer:** B) There is a 200 m × 300 m plot for development in Southampton.

**Explanation:**

First, calculate total area without streets:  $75 \times (30 \times 20) = 75 \times 600 = 45,000 \text{ m}^2$ .

Add 20%:  $45,000 \times 1.2 = 54,000 \text{ m}^2 = 5.4 \text{ ha}$ .

Evaluate options:

- 5.1 ha (option A) slightly less,
- $200 \times 300 = 60,000 \text{ m}^2 = 6 \text{ ha}$  (option B) slightly greater,
- 4.5 ha and  $500 \times 110 = 55,000 \text{ m}^2 = 5.5 \text{ ha}$ .

Option B is closest to 5.4 ha among the given choices.

2. **Answer:** B) 100 ft

**Explanation:**

Find length:  $616 \div 22 = 28 \text{ ft}$ .

Perimeter =  $2 \times (L + W) = 2 \times (28 + 22) = 2 \times 50 = 100 \text{ ft}$ .

3. **Answer:** A) 2

**Explanation:**

Slope =  $y_2 - y_1 / x_2 - x_1 = 10 - 2 / 7 - 3 = 8 / 4 = 2$

4. **Answer:** A) Multiply each average by its weight, then sum the results

**Explanation:**

Weighted average =  $0.5 \times \text{Tests} + 0.35 \times \text{Quizzes} + 0.15 \times \text{Homework}$

5. **Answer:** A) \$102

**Explanation:**

Calculate discount: 15% of \$120 =  $0.15 \times 120 = \$18$ .

Subtract discount from original price:  $120 - 18 = \$102$ .

6. **Answer:** C) 55

**Explanation:**

Calculate powers:  $4^3 = 64$  and  $3^2 = 9$ .

Subtract:  $64 - 9 = 55$ .

7. **Answer:** B) 180

**Explanation:**

Calculate 20% of 150:  $0.20 \times 150 = 30$ .

Add to original:  $150 + 30 = 180$ .

8. **Answer:** A)  $\frac{1}{3}$  cup

**Explanation:**

Half of  $\frac{2}{3} = (\frac{1}{2}) \times (\frac{2}{3}) = \frac{2}{6} = \frac{1}{3}$  cup.

9. **Answer:** A) 12

**Explanation:**

Substitute x with 3:

$$3(3 - 4) + 5(3) = 3(-1) + 15 = -3 + 15 = 12$$

10. **Answer:** C) 36

**Explanation:**

Let the numbers be x, x+2, x+4. Their sum:  $x+x+2+x+4 = 3x+6 = 96$ , so  $3x=90$ ,  $x=30$ . Largest is  $x+4=34$ .

11. **Answer:** D) 45

**Explanation:**

Let total students = x.  $0.4x=18$ , so  $x=18/0.4=45$

12. **Answer:** D) 10

**Explanation:**

Subtract 3x:  $2x+12 = 32$ ;  $2x = 20$ ;  $x = 10$ .

13. **Answer:** D) 10

**Explanation:**

Subtract 3:  $2x/5=4$ , so  $2x=20$ ,  $x=10$ .

14. **Answer:** C)  $942 \text{ cm}^3$

**Explanation:** Radius = 5 cm. Volume =  $\pi \times r^2 \times h = 3.14 \times 25 \times 12 = 942 \text{ cm}^3$ .

15. **Answer:** B) 6.25 cups

**Explanation:**

Set a proportion:  $2.5/12=x/30$ , solve  $x=2.5 \times 30/12 = 6.25$

16. **Answer:** C) 0.64

**Explanation:**

$5/8=0.625$ . The closest is 0.64.

17. **Answer:** B) \$44

**Explanation:**

Find 12% of \$50: \$6;  $\$50 - \$6 = \$44$ .

18. **Answer:** B) 19

**Explanation:**

Order: 13, 15, 17, 19, 23, 25, 29; Median is the middle: 19.

19. Answer: C)  $0.5 \text{ m}^3$

Explanation:

$$500 \div 1000 = 0.5 \text{ m}^3.$$

20. Answer: A) -15

Explanation:

$$\text{Subtract } 2x: -5 = x + 10, \text{ so } x = -15.$$

21. Answer: A) 35

Explanation:

$$\text{Let numbers be } x, x+2, x+4, x+6, \text{ sum: } 4x+12=152, 4x=140, x=35.$$

22. Answer: C) 24

Explanation:

$$\text{Multiply both sides by } 4/3: x=18 \times 4/3= 24.$$

23. Answer: B) 32

Explanation:

$$\text{Substitute: } 2(10-3) + 3(2+4)= 2(7) + 3(6)= 14 + 18= 32.$$

24. Answer: D) 17

Explanation:

$$\text{Range} = \text{max} - \text{min} = 22 - 5 = 17.$$

25. Answer: A) 31

Explanation:

Numbers after 29 to check for primality: 31 is the next prime.

26. Answer: D) 17

Explanation:

$$\text{Sum: } 85; \text{ mean: } 85 \div 5 = 17.$$

27. Answer: A) 11 cm

Explanation:

$$7 + 12 + x = 30; x = 30 - 19 = 11 \text{ cm.}$$

28. Answer: B) 10

Explanation:

$$x = y + 2; \text{ so } y + 2 + y = 22 \Rightarrow 2y = 20 \Rightarrow y = 10.$$

29. Answer: C) \$96

Explanation:

$$\text{Interest} = \text{principal} \times \text{rate} \times \text{time} = 800 \times 0.04 \times 3 = \$96.$$

30. Answer: C) 5.25

Explanation:

Find sugar per serving:  $2 \div 8 = 0.25$  cups per serving.  
Multiply by 20 servings:  $0.25 \times 20 = 5.25$  cups.

31. **Answer:** C) 240 miles

**Explanation:**

Calculate miles per gallon:  $150 \div 5 = 30$  mpg.  
Multiply by 8 gallons:  $30 \times 8 = 240$  miles.

32. **Answer:** B) \$1,440

**Explanation:**

Interest:  $1200 \times 0.05 \times 4 = \$240$ .  
Total amount:  $1200 + 240 = \$1,440$ .

33. **Answer:** A)  $502.4 \text{ m}^3$

*Explanation:*

Volume =  $\pi \times r^2 \times h = 3.14 \times 16 \times 10 = 502.4 \text{ m}^3$ .

34. **Answer:** C) \$55,120

*Explanation:*

Raise amount:  $0.06 \times 52,000 = \$3,120$ .  
New salary:  $52,000 + 3,120 = \$55,120$ .

35. **Answer:** A) 75%

*Explanation:*

Number of opened boxes =  $12 - 3 = 9$ .  
Percentage opened =  $(9 \div 12) \times 100 = 75\%$ .

36. **Answer:** A) \$5616.32

*Explanation:*

Calculate amount:  $5000 \times (1 + 0.04)^3 = 5000 \times 1.124864 = \$5616.32$ .

37. **Answer:** B)  $1 \frac{1}{4}$  cup

*Explanation:*

Oil per serving =  $\frac{3}{4} \div 6 = \frac{1}{8}$  cup.  
Oil for 10 servings =  $\frac{1}{8} \times 10 = \frac{10}{8} = 1 \frac{1}{4}$  cups.

38. **Answer:** B) \$21.25

*Explanation:*

Discount =  $0.25 \times 85 = \$21.25$ .

39. **Answer:** B) 22.5 liters

*Explanation:*

Ratio red:white = 2:5  $\Rightarrow$  For 9 liters red, white =  $(\frac{5}{2}) \times 9 = 22.5$  liters.

40. **Answer:** B) 20

*Explanation:*

Convert  $\text{ft}^2$  to  $\text{yd}^2$ :  $\text{Area} = 15 \times 12 = 180 \text{ ft}^2$ .

$1 \text{ yd}^2 = 9 \text{ ft}^2$ , so  $180 \div 9 = 20 \text{ yd}^2$ .

41. Answer: A) \$45

*Explanation:*

Convert time to years:  $9/12 = 0.75$  years.

Interest =  $1000 \times 0.06 \times 0.75 = \$45$ .

42. Answer: A)  $5/12$

*Explanation:*

Total slices – eaten slices = remaining slices:  $12 - 7 = 5$ .

Remaining fraction =  $5/12$ .

43. Answer: C) 500

*Explanation:*

Volume = length  $\times$  width  $\times$  depth =  $25 \times 10 \times 2 = 500 \text{ m}^3$ .

44. Answer: B) 200 g

*Explanation:*

5% means 5 g salt per 100 g solution.

So, 10 g salt corresponds to  $(10 \times 100)/5 = 200 \text{ g}$  solution.

45. Answer: A)  $1/3$

*Explanation:*

Multiples of 3 between 1–15: 3,6,9,12,15 (5 numbers).

Probability =  $5/15 = 1/3$ .