



THE MATH HUB

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Percentage MCQs

100 FULLY SOLVED MCQs

PPSC, FPSC & ONE PAPER EXAMS

NTS • CSS MPT • PMS • Government Job Tests

Fast Methods • Four Options • Immediate Mathematical Solution

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PART 1 - PERCENTAGE | 100 SOLVED MCQs**Fast Percentage Foundation****Core forms**

$$x\% = \frac{x}{100}$$

$$x\% \text{ of } N = \frac{x}{100}N$$

$$\text{Percentage} = \frac{\text{Part}}{\text{Whole}} \times 100$$

$$\% \text{ change} = \frac{\text{Change}}{\text{Original}} \times 100$$

Price-consumption shortcut

$$\text{Price } \uparrow r\% \Rightarrow \text{Consumption } \downarrow \frac{100r}{100+r}\%$$

$$\text{Price } \downarrow r\% \Rightarrow \text{Consumption } \uparrow \frac{100r}{100-r}\%$$

Exam-speed mental route

$$10\% \text{ of } N = \frac{N}{10}$$

$$5\% \text{ of } N = \frac{1}{2}(10\% \text{ of } N)$$

$$15\% = 10\% + 5\%, \quad 35\% = 30\% + 5\%$$

$$2.5\% = \frac{1}{4}(10\%)$$

High-speed conversions

$$50\% = \frac{1}{2}, \quad 25\% = \frac{1}{4}, \quad 20\% = \frac{1}{5}$$

$$10\% = \frac{1}{10}, \quad 12.5\% = \frac{1}{8}, \quad 75\% = \frac{3}{4}$$

$$33\frac{1}{3}\% = \frac{1}{3}, \quad 66\frac{2}{3}\% = \frac{2}{3}$$

Exam-speed route

Pattern $\rightarrow$ Formula

Formula $\rightarrow$ Mental Simplification

Reverse percentage

$$\text{Original} = \frac{\text{Final} \times 100}{100 + r}$$

for an increase of $r\%$, and

$$\text{Original} = \frac{\text{Final} \times 100}{100 - r}$$

for a decrease of $r\%$.

Successive percentage change

$$\text{Net change} = a + b + \frac{ab}{100}$$

Use the sign of each change. For $+a\%$ followed by $-b\%$, take b as negative.

MCQ 1

What is 40% of 60?

- A. 12 B. 24
C. 16 D. None of these

FPSC Official Practice Paper (General Abilities)

Solution

$$40\% \text{ of } 60 = \frac{40}{100} \times 60$$

$$= \frac{2}{5} \times 60 = 2 \times 12 = 24$$

Final Answer**24** — Option B**MCQ 2**

A candidate answered all 50 questions and obtained 80%. How many answers were wrong?

- A. 40 B. 45
C. 10 D. None of these

FPSC Official Practice Paper (General Abilities), wording lightly standardized

Solution

$$\text{Correct} = \frac{80}{100} \times 50 = \frac{4}{5} \times 50 = 40$$

$$\text{Wrong} = 50 - 40 = 10$$

Final Answer**10** — Option C**MCQ 3**

\$7.32 is 10% of what amount?

- A. \$19.10 B. \$48.42
C. \$73.20 D. None of these

FPSC Official Practice Paper (General Abilities)

Solution

$$10\% \text{ of } x = 7.32$$

$$\frac{10}{100}x = 7.32$$

$$\frac{x}{10} = 7.32$$

$$x = 7.32 \times 10 = 73.20$$

Final Answer**\$73.20** — Option C**MCQ 4**

A coat marked at \$50 is sold at a 10% discount. How much is saved?

- A. \$5 B. \$10
C. \$15 D. None of these

FPSC Official Practice Paper (General Abilities), wording lightly standardized

Solution

$$\text{Saving} = 10\% \text{ of } 50$$

$$= \frac{10}{100} \times 50 = \frac{1}{10} \times 50 = 5$$

Final Answer**\$5** — Option A**MCQ 5**

Find 35% of 240.

- A. 72 B. 84
C. 96 D. 108

Solution

$$35\% = 30\% + 5\%$$

$$30\% \text{ of } 240 = \frac{30}{100} \times 240 = 72$$

$$5\% \text{ of } 240 = \frac{5}{100} \times 240 = 12$$

$$35\% \text{ of } 240 = 72 + 12 = 84$$

Final Answer**84** — Option B**MCQ 6**

20 is what percent of 80?

- A. 20% B. 25%
C. 30% D. 40%

Solution

$$\text{Percentage} = \frac{20}{80} \times 100$$

$$= \frac{1}{4} \times 100 = 25\%$$

Final Answer**25%** — Option B

MCQ 7

A number increases from 120 to 150. Find the percentage increase.

- A. 20% B. 25%
C. 30% D. 35%

Solution

$$\text{Increase} = 150 - 120 = 30$$

$$\% \text{ increase} = \frac{30}{120} \times 100$$

$$= \frac{1}{4} \times 100 = 25\%$$

Final Answer**25%** — Option B**MCQ 8**

A value falls from 500 to 425. Find the percentage decrease.

- A. 10% B. 12%
C. 15% D. 20%

Solution

$$\text{Decrease} = 500 - 425 = 75$$

$$\% \text{ decrease} = \frac{75}{500} \times 100$$

$$= \frac{3}{20} \times 100 = 15\%$$

Final Answer**15%** — Option C**MCQ 9**

72 is 120% of which number?

- A. 50 B. 60
C. 72 D. 86.4

Solution

$$120\% \text{ of } x = 72$$

$$\frac{120}{100}x = 72$$

$$\frac{6}{5}x = 72$$

$$x = 72 \times \frac{5}{6} = 12 \times 5 = 60$$

Final Answer**60** — Option B**MCQ 10**

A class has 40 students. If 65% are present, how many are absent?

- A. 12 B. 14
C. 16 D. 26

Solution

$$\text{Present} = \frac{65}{100} \times 40 = 26$$

$$\text{Absent} = 40 - 26 = 14$$

Final Answer**14** — Option B**MCQ 11**

A student obtains 360 marks out of 450. Find the percentage.

- A. 75% B. 80%
C. 82% D. 85%

Solution

$$\text{Percentage} = \frac{360}{450} \times 100$$

$$= \frac{4}{5} \times 100 = 80\%$$

Final Answer**80%** — Option B**MCQ 12**

Find 12.5% of 640.

- A. 64 B. 80
C. 96 D. 120

Solution

$$12.5\% = \frac{1}{8}$$

$$12.5\% \text{ of } 640 = \frac{1}{8} \times 640 = 80$$

Final Answer**80** — Option B

MCQ 13Find $33\frac{1}{3}\%$ of 270.

- A. 80 B. 90
C. 100 D. 120

Solution

$$33\frac{1}{3}\% = \frac{1}{3}$$

$$\frac{1}{3} \times 270 = 90$$

Final Answer

90 — Option B

MCQ 14Find $66\frac{2}{3}\%$ of 150.

- A. 75 B. 90
C. 100 D. 120

Solution

$$66\frac{2}{3}\% = \frac{2}{3}$$

$$\frac{2}{3} \times 150 = 2 \times 50 = 100$$

Final Answer

100 — Option C

MCQ 15Express $\frac{7}{8}$ as a percentage.

- A. 75% B. 80%
C. 87.5% D. 92.5%

Solution

$$\frac{7}{8} \times 100 = 7 \times 12.5 = 87.5\%$$

Final Answer

87.5% — Option C

MCQ 16

Express 0.375 as a percentage.

- A. 3.75% B. 37.5%
C. 375% D. 0.375%

Solution

$$0.375 \times 100 = 37.5\%$$

Final Answer

37.5% — Option B

MCQ 17

After a 20% increase, a salary becomes Rs. 48,000. What was the original salary?

- A. Rs. 38,400 B. Rs. 40,000
C. Rs. 42,000 D. Rs. 44,000

Solution

120% of Original = 48,000

$$\text{Original} = 48,000 \times \frac{100}{120}$$

$$= 48,000 \times \frac{5}{6} = 8,000 \times 5 = 40,000$$

Final Answer

Rs. 40,000 — Option B

MCQ 18

After a 20% discount, an item costs Rs. 960. Find its marked price.

- A. Rs. 1,100 B. Rs. 1,150
C. Rs. 1,200 D. Rs. 1,250

Solution

80% of Marked Price = 960

$$\text{Marked Price} = 960 \times \frac{100}{80}$$

$$= 960 \times \frac{5}{4} = 240 \times 5 = 1,200$$

Final Answer

Rs. 1,200 — Option C

MCQ 19

A price is increased by 20% and then decreased by 20%. What is the net change?

- A. No change B. 4% increase
C. 4% decrease D. 8% decrease

Solution

Take initial price = 100

$$100 \times 1.20 = 120$$

$$120 \times 0.80 = 96$$

$$\text{Decrease} = 100 - 96 = 4$$

$$\text{Net decrease} = 4\%$$

Final Answer

4% decrease — Option C

MCQ 20

A number is increased by 10% and again by 10%. What is the total percentage increase?

- A. 20% B. 21%
C. 22% D. 25%

Solution

$$100 \times 1.10 \times 1.10 = 121$$

$$\text{Increase} = 121 - 100 = 21$$

$$\text{Increase} = 21\%$$

Final Answer

21% — Option B

MCQ 21

The price of a commodity rises by 25%. By what percentage must consumption fall so that expenditure remains unchanged?

- A. 15% B. 20%
C. 25% D. 30%

Solution

$$\text{Old Price} = 100, \quad \text{Old Quantity} = 100$$

$$\text{Old Expenditure} = 100 \times 100 = 10,000$$

$$\text{New Price} = 125$$

$$\text{New Quantity} = \frac{10,000}{125} = 80$$

$$\text{Decrease} = 100 - 80 = 20$$

20%

Final Answer

20% — Option B

MCQ 22

The price of an item falls by 20%. By what percentage may consumption rise so that total expenditure is unchanged?

- A. 20% B. 22.5%
C. 25% D. 30%

Solution

$$\text{Old Price} = 100, \quad \text{Old Quantity} = 100$$

$$\text{Old Expenditure} = 10,000$$

$$\text{New Price} = 80$$

$$\text{New Quantity} = \frac{10,000}{80} = 125$$

$$\text{Increase} = 125 - 100 = 25$$

Final Answer

25% — Option C

MCQ 23

If 30% of a number is 54, what is 70% of the same number?

- A. 108 B. 112
C. 126 D. 140

Solution

$$30\% \text{ of } x = 54$$

$$\frac{30}{100}x = 54$$

$$x = 54 \times \frac{100}{30} = 180$$

$$70\% \text{ of } 180 = \frac{70}{100} \times 180 = 126$$

Final Answer

126 — Option C

MCQ 24

In a group, boys and girls are in the ratio 2 : 3. What percentage of the group are girls?

- A. 40% B. 50%
C. 60% D. $66\frac{2}{3}\%$

Solution

$$\text{Total parts} = 2 + 3 = 5$$

$$\text{Girls fraction} = \frac{3}{5}$$

$$\frac{3}{5} \times 100 = 60\%$$

Final Answer

60% — Option C

MCQ 25

A candidate needs 40% marks to pass. He gets 144 marks and fails by 16 marks. What are the total marks?

- A. 360 B. 380
C. 400 D. 420

Solution

$$\text{Passing marks} = 144 + 16 = 160$$

$$40\% \text{ of Total} = 160$$

$$\text{Total} = 160 \times \frac{100}{40}$$

$$= 160 \times \frac{5}{2} = 80 \times 5 = 400$$

Final Answer

400 — Option C

MCQ 26

A shop gives successive discounts of 20% and 10%. What is the equivalent single discount?

- A. 28% B. 30%
C. 32% D. 35%

Solution

$$\text{Marked Price} = 100$$

$$100 \times 0.80 = 80$$

$$80 \times 0.90 = 72$$

$$\text{Discount} = 100 - 72 = 28$$

Final Answer

28% — Option A

MCQ 27

A population of 20,000 increases by 10% in one year and 10% again in the next year. What is the new population?

- A. 22,000 B. 23,000
C. 24,000 D. 24,200

Solution

$$20,000 \times 1.10 = 22,000$$

$$22,000 \times 1.10 = 24,200$$

Final Answer

24,200 — Option D

MCQ 28

A number is 25% more than 80. Find the number.

- A. 90 B. 95
C. 100 D. 105

Solution

$$25\% \text{ of } 80 = \frac{1}{4} \times 80 = 20$$

$$80 + 20 = 100$$

Final Answer

100 — Option C

MCQ 29

If A is 20% less than B, and B = 250, find A.

- A. 180 B. 190
C. 200 D. 225

Solution

$$20\% \text{ of } 250 = \frac{1}{5} \times 250 = 50$$

$$A = 250 - 50 = 200$$

Final Answer

200 — Option C

MCQ 30

A salary of Rs. 32,000 is increased by 12.5%. Find the new salary.

- A. Rs. 34,000 B. Rs. 35,000
C. Rs. 36,000 D. Rs. 36,500

Solution

$$12.5\% = \frac{1}{8}$$

$$\text{Increase} = \frac{1}{8} \times 32,000 = 4,000$$

$$\text{New Salary} = 32,000 + 4,000 = 36,000$$

Final Answer

Rs. 36,000 — Option C

MCQ 31

Find 18% of 350.

- A. 80.5 B. 45.5
C. 126 D. 63

Solution

$$18\% \text{ of } 350 = \frac{18}{100} \times 350 = 63$$

Final Answer

63 — Option D

MCQ 32

Find 22% of 450.

- A. 121.5 B. 76.5
C. 198 D. 99

Solution

$$22\% \text{ of } 450 = \frac{22}{100} \times 450 = 99$$

Final Answer

99 — Option D

MCQ 33

Find 7.5% of 960.

A. 120**B. 24****C. 72****D. 144****Solution**

$$7.5\% \text{ of } 960 = \frac{7.5}{100} \times 960$$

$$= 72$$

Final Answer**72** — Option C**MCQ 34**

Find 62.5% of 320.

A. 200**B. 216****C. 184****D. 400****Solution**

$$62.5\% = \frac{5}{8}$$

$$\frac{5}{8} \times 320 = 200$$

Final Answer**200** — Option A**MCQ 35**

Find 16.6667% of 480.

A. 104**B. 56****C. 80****D. 160****Solution**

$$16\frac{2}{3}\% = \frac{1}{6}$$

$$\frac{1}{6} \times 480 = 80$$

Final Answer**80** — Option C**MCQ 36**

Find 8.33333% of 720.

A. 96**B. 24****C. 60****D. 120****Solution**

$$8\frac{1}{3}\% = \frac{1}{12}$$

$$\frac{1}{12} \times 720 = 60$$

Final Answer**60** — Option C**MCQ 37**

Find 2.5% of 1600.

A. 120**B. 40****C. 0****D. 80****Solution**

$$2.5\% = \frac{1}{40}$$

$$\frac{1}{40} \times 1600 = 40$$

Final Answer**40** — Option B**MCQ 38**

Find 45% of 760.

A. 380**B. 304****C. 342****D. 684****Solution**

$$45\% \text{ of } 760 = \frac{45}{100} \times 760$$

$$= 342$$

Final Answer**342** — Option C**MCQ 39**

Find 55% of 840.

A. 462**B. 504****C. 420****D. 924****Solution**

$$55\% \text{ of } 840 = \frac{55}{100} \times 840$$

$$= 462$$

Final Answer**462** — Option A**MCQ 40**

Find 125% of 144.

A. 187.2**B. 172.8****C. 180****D. 360****Solution**

$$125\% = \frac{5}{4}$$

$$\frac{5}{4} \times 144 = 180$$

Final Answer**180** — Option C

MCQ 41

If 30% of a number is 24, find the number.

- A. 100 B. 80
C. 60 D. 24

Solution

$$30\% \text{ of } x = 24$$

$$\frac{30}{100}x = 24$$

$$x = 24 \times \frac{100}{30} = 80$$

Final Answer

80 — Option B

MCQ 42

If 35% of a number is 84, find the number.

- A. 260 B. 220
C. 240 D. 84

Solution

$$35\% \text{ of } x = 84$$

$$\frac{35}{100}x = 84$$

$$x = 84 \times \frac{100}{35} = 240$$

Final Answer

240 — Option C

MCQ 43

If 40% of a number is 96, find the number.

- A. 260 B. 240
C. 220 D. 96

Solution

$$40\% \text{ of } x = 96$$

$$\frac{40}{100}x = 96$$

$$x = 96 \times \frac{100}{40} = 240$$

Final Answer

240 — Option B

MCQ 44

If 75% of a number is 150, find the number.

- A. 200 B. 220
C. 180 D. 150

Solution

$$75\% \text{ of } x = 150$$

$$\frac{75}{100}x = 150$$

$$x = 150 \times \frac{100}{75} = 200$$

Final Answer

200 — Option A

MCQ 45

If 60% of a number is 72, find the number.

- A. 120 B. 140
C. 100 D. 72

Solution

$$60\% \text{ of } x = 72$$

$$\frac{60}{100}x = 72$$

$$x = 72 \times \frac{100}{60} = 120$$

Final Answer

120 — Option A

MCQ 46

If 55% of a number is 88, find the number.

- A. 180 B. 140
C. 160 D. 88

Solution

$$55\% \text{ of } x = 88$$

$$\frac{55}{100}x = 88$$

$$x = 88 \times \frac{100}{55} = 160$$

Final Answer

160 — Option C

MCQ 47

If 12.5% of a number is 45, find the number.

- A. 380 B. 340
C. 360 D. 45

Solution

$$12.5\% \text{ of } x = 45$$

$$\frac{12.5}{100}x = 45$$

$$x = 45 \times \frac{100}{12.5} = 360$$

Final Answer

360 — Option C

MCQ 48

If 20% of a number is 160, find the number.

- A. 820 B. 780
C. 160 D. 800

Solution

$$20\% \text{ of } x = 160$$

$$\frac{20}{100}x = 160$$

$$x = 160 \times \frac{100}{20} = 800$$

Final Answer

800 — Option D

MCQ 49

If 37.5% of a number is 225, find the number.

- A. 620 B. 580
C. 225 D. 600

Solution

$$37.5\% \text{ of } x = 225$$

$$\frac{37.5}{100}x = 225$$

$$x = 225 \times \frac{100}{37.5} = 600$$

Final Answer

600 — Option D

MCQ 50

If 125% of a number is 300, find the number.

- A. 240 B. 260
C. 220 D. 300

Solution

$$125\% \text{ of } x = 300$$

$$\frac{125}{100}x = 300$$

$$x = 300 \times \frac{100}{125} = 240$$

Final Answer

240 — Option A

MCQ 51

A value changes from 240 to 300. Find the percentage increase.

- A. 30% B. 20%
C. 50% D. 25%

Solution

$$\text{Change} = |300 - 240| = 60$$

$$\begin{aligned} \% \text{ increase} &= \frac{60}{240} \times 100 \\ &= 25\% \end{aligned}$$

Final Answer

25% increase — Option D

MCQ 52

A value changes from 800 to 680. Find the percentage decrease.

- A. 15% B. 20%
C. 10% D. 30%

Solution

$$\text{Change} = |680 - 800| = 120$$

$$\begin{aligned} \% \text{ decrease} &= \frac{120}{800} \times 100 \\ &= 15\% \end{aligned}$$

Final Answer

15% decrease — Option A

MCQ 53

A value changes from 1250 to 1500. Find the percentage increase.

- A. 25% B. 20%
C. 15% D. 40%

Solution

$$\text{Change} = |1500 - 1250| = 250$$

$$\begin{aligned}\% \text{ increase} &= \frac{250}{1250} \times 100 \\ &= 20\%\end{aligned}$$

Final Answer 20% increase — Option B

MCQ 54

A value changes from 960 to 720. Find the percentage decrease.

- A. 30% B. 20%
C. 25% D. 50%

Solution

$$\text{Change} = |720 - 960| = 240$$

$$\begin{aligned}\% \text{ decrease} &= \frac{240}{960} \times 100 \\ &= 25\%\end{aligned}$$

Final Answer 25% decrease — Option C

MCQ 55

A value changes from 72 to 90. Find the percentage increase.

- A. 30% B. 25%
C. 20% D. 50%

Solution

$$\text{Change} = |90 - 72| = 18$$

$$\begin{aligned}\% \text{ increase} &= \frac{18}{72} \times 100 \\ &= 25\%\end{aligned}$$

Final Answer 25% increase — Option B

MCQ 56

A value changes from 450 to 540. Find the percentage increase.

- A. 25% B. 15%
C. 40% D. 20%

Solution

$$\text{Change} = |540 - 450| = 90$$

$$\begin{aligned}\% \text{ increase} &= \frac{90}{450} \times 100 \\ &= 20\%\end{aligned}$$

Final Answer 20% increase — Option D

MCQ 57

A value changes from 150 to 120. Find the percentage decrease.

- A. 25% B. 20%
C. 15% D. 40%

Solution

$$\text{Change} = |120 - 150| = 30$$

$$\begin{aligned}\% \text{ decrease} &= \frac{30}{150} \times 100 \\ &= 20\%\end{aligned}$$

Final Answer 20% decrease — Option B

MCQ 58

A value changes from 640 to 704. Find the percentage increase.

- A. 15% B. 10%
C. 5% D. 20%

Solution

$$\text{Change} = |704 - 640| = 64$$

$$\begin{aligned}\% \text{ increase} &= \frac{64}{640} \times 100 \\ &= 10\%\end{aligned}$$

Final Answer 10% increase — Option B

MCQ 59

A value changes from 1000 to 850. Find the percentage decrease.

- A. 20% B. 10%
C. 15% D. 30%

Solution

$$\text{Change} = |850 - 1000| = 150$$

$$\begin{aligned}\% \text{ decrease} &= \frac{150}{1000} \times 100 \\ &= 15\%\end{aligned}$$

Final Answer 15% decrease — Option C

MCQ 60

A value changes from 84 to 63. Find the percentage decrease.

- A. 25% B. 30%
C. 20% D. 50%

Solution

$$\text{Change} = |63 - 84| = 21$$

$$\begin{aligned}\% \text{ decrease} &= \frac{21}{84} \times 100 \\ &= 25\%\end{aligned}$$

Final Answer 25% decrease — Option A

MCQ 61

After a 25% increase, a value becomes 1,000. Find the original value.

- A. 640 B. 960
C. 1,000 D. 800

Solution

$$125\% \text{ of Original} = 1,000$$

$$\begin{aligned}\text{Original} &= 1,000 \times \frac{100}{125} \\ &= 800\end{aligned}$$

Final Answer 800 — Option D

MCQ 62

After a 25% decrease, a value becomes 900. Find the original value.

- A. 960 B. 1,200
C. 1,440 D. 900

Solution

$$75\% \text{ of Original} = 900$$

$$\begin{aligned}\text{Original} &= 900 \times \frac{100}{75} \\ &= 1,200\end{aligned}$$

Final Answer 1,200 — Option B

MCQ 63

After a 10% increase, a value becomes 550. Find the original value.

- A. 400 B. 600
C. 550 D. 500

Solution

$$110\% \text{ of Original} = 550$$

$$\begin{aligned}\text{Original} &= 550 \times \frac{100}{110} \\ &= 500\end{aligned}$$

Final Answer 500 — Option D

MCQ 64

After a 10% decrease, a value becomes 990. Find the original value.

- A. 880 B. 1,320
C. 990 D. 1,100

Solution

$$90\% \text{ of Original} = 990$$

$$\begin{aligned}\text{Original} &= 990 \times \frac{100}{90} \\ &= 1,100\end{aligned}$$

Final Answer 1,100 — Option D

MCQ 65

After a 50% increase, a value becomes 2,400. Find the original value.

- A. 1,600 B. 1,280
C. 1,920 D. 2,400

Solution

$$150\% \text{ of Original} = 2,400$$

$$\begin{aligned}\text{Original} &= 2,400 \times \frac{100}{150} \\ &= 1,600\end{aligned}$$

Final Answer1,600 — Option A**MCQ 66**

After a 40% decrease, a value becomes 720. Find the original value.

- A. 1,200 B. 960
C. 1,440 D. 720

Solution

$$60\% \text{ of Original} = 720$$

$$\begin{aligned}\text{Original} &= 720 \times \frac{100}{60} \\ &= 1,200\end{aligned}$$

Final Answer1,200 — Option A**MCQ 67**

After a 12.5% increase, a value becomes 45,000. Find the original value.

- A. 32,000 B. 48,000
C. 45,000 D. 40,000

Solution

$$112.5\% \text{ of Original} = 45,000$$

$$\begin{aligned}\text{Original} &= 45,000 \times \frac{100}{112.5} \\ &= 40,000\end{aligned}$$

Final Answer40,000 — Option D**MCQ 68**

After a 37.5% decrease, a value becomes 500. Find the original value.

- A. 640 B. 960
C. 800 D. 500

Solution

$$62.5\% \text{ of Original} = 500$$

$$\begin{aligned}\text{Original} &= 500 \times \frac{100}{62.5} \\ &= 800\end{aligned}$$

Final Answer800 — Option C**MCQ 69**

After a 20% increase, a value becomes 1,440. Find the original value.

- A. 960 B. 1,440
C. 1,440 D. 1,200

Solution

$$120\% \text{ of Original} = 1,440$$

$$\begin{aligned}\text{Original} &= 1,440 \times \frac{100}{120} \\ &= 1,200\end{aligned}$$

Final Answer1,200 — Option D**MCQ 70**

After a 20% decrease, a value becomes 1,600. Find the original value.

- A. 1,600 B. 2,400
C. 2,000 D. 1,600

Solution

$$80\% \text{ of Original} = 1,600$$

$$\begin{aligned}\text{Original} &= 1,600 \times \frac{100}{80} \\ &= 2,000\end{aligned}$$

Final Answer2,000 — Option C

MCQ 71

A value changes by +20% and then by +10%. Find the net percentage change.

- A. 30% B. 37%
C. 32% D. 27%

Solution

Take initial value = 100

$$100 \left(1 + \frac{20}{100} \right) = 120$$

$$120 \left(1 + \frac{10}{100} \right) = 132$$

$$\text{Net change} = 132 - 100 = 32$$

Final Answer 32% increase — Option C

MCQ 72

A value changes by +30% and then by -10%. Find the net percentage change.

- A. 17% B. 20%
C. 22% D. 12%

Solution

Take initial value = 100

$$100 \left(1 + \frac{30}{100} \right) = 130$$

$$130 \left(1 + \frac{-10}{100} \right) = 117$$

$$\text{Net change} = 117 - 100 = 17$$

Final Answer 17% increase — Option A

MCQ 73

A value changes by -20% and then by +25%. Find the net percentage change.

- A. 0% (no change) B. 5% increase
C. 5% decrease D. 10% decrease

Solution

Take initial value = 100

$$100 \left(1 - \frac{20}{100} \right) = 80$$

$$80 \left(1 + \frac{25}{100} \right) = 100$$

$$\text{Net change} = 100 - 100 = 0$$

Final Answer 0% (no change) — Option A

MCQ 74

A value changes by +50% and then by -20%. Find the net percentage change.

- A. 30% B. 25%
C. 15% D. 20%

Solution

Take initial value = 100

$$100 \left(1 + \frac{50}{100} \right) = 150$$

$$150 \left(1 + \frac{-20}{100} \right) = 120$$

$$\text{Net change} = 120 - 100 = 20$$

Final Answer 20% increase — Option D

MCQ 75

A value changes by -10% and then by -20%. Find the net percentage change.

- A. 28% B. 30%
C. 33% D. 23%

Solution

Take initial value = 100

$$100 \left(1 + \frac{-10}{100} \right) = 90$$

$$90 \left(1 + \frac{-20}{100} \right) = 72$$

$$\text{Net change} = 72 - 100 = -28$$

Final Answer 28% decrease — Option A

MCQ 76

A value changes by +25% and then by +25%. Find the net percentage change.

- A. 56.25% B. 50%
C. 61.25% D. 51.25%

Solution

Take initial value = 100

$$100 \left(1 + \frac{25}{100} \right) = 125$$

$$125 \left(1 + \frac{25}{100} \right) = 156.25$$

$$\text{Net change} = 156.25 - 100 = 56.25$$

Final Answer 56.25% increase — Option A

MCQ 77

A value changes by +40% and then by -25%. Find the net percentage change.

- A. 5% B. 15%
C. 10% D. 0%

Solution

Take initial value = 100

$$100 \left(1 + \frac{40}{100} \right) = 140$$

$$140 \left(1 + \frac{-25}{100} \right) = 105$$

$$\text{Net change} = 105 - 100 = 5$$

Final Answer

5% increase — Option A

MCQ 78

A value changes by +12.5% and then by +20%. Find the net percentage change.

- A. 32.5% B. 40%
C. 30% D. 35%

Solution

Take initial value = 100

$$100 \left(1 + \frac{12.5}{100} \right) = 112.5$$

$$112.5 \left(1 + \frac{20}{100} \right) = 135$$

$$\text{Net change} = 135 - 100 = 35$$

Final Answer

35% increase — Option D

MCQ 79

A value changes by +20% and then by -10%. Find the net percentage change.

- A. 8% B. 10%
C. 13% D. 3%

Solution

Take initial value = 100

$$100 \left(1 + \frac{20}{100} \right) = 120$$

$$120 \left(1 + \frac{-10}{100} \right) = 108$$

$$\text{Net change} = 108 - 100 = 8$$

Final Answer

8% increase — Option A

MCQ 80

A value changes by -25% and then by +50%. Find the net percentage change.

- A. 12.5% B. 25%
C. 17.5% D. 7.5%

Solution

Take initial value = 100

$$100 \left(1 + \frac{-25}{100} \right) = 75$$

$$75 \left(1 + \frac{50}{100} \right) = 112.5$$

$$\text{Net change} = 112.5 - 100 = 12.5$$

Final Answer

12.5% increase — Option A

MCQ 81

A candidate requires 45% marks to pass. He obtains 162 marks and fails by 18 marks. Find the total marks.

- A. 360 B. 380
C. 400 D. 420

Solution

$$\text{Passing marks} = 162 + 18 = 180$$

$$45\% \text{ of Total} = 180$$

$$\text{Total} = 180 \times \frac{100}{45} = 400$$

Final Answer

400 — Option C

MCQ 82

In a class of 80 students, 15% are absent. How many are present?

- A. 64 B. 66
C. 68 D. 72

Solution

$$\text{Absent} = \frac{15}{100} \times 80 = 12$$

$$\text{Present} = 80 - 12 = 68$$

Final Answer

68 — Option C

MCQ 83

A student scores 72% of 625 marks. Find the score.

- A. 425 B. 440
C. 450 D. 475

Solution

$$\begin{aligned}\text{Score} &= \frac{72}{100} \times 625 \\ &= 72 \times 6.25 = 450\end{aligned}$$

Final Answer

450 — Option C

MCQ 84

Out of 3,200 voters, 12.5% did not vote. How many votes were cast?

- A. 2,600 B. 2,700
C. 2,800 D. 2,900

Solution

$$\begin{aligned}12.5\% &= \frac{1}{8} \\ \text{Did not vote} &= \frac{1}{8} \times 3,200 = 400 \\ \text{Votes cast} &= 3,200 - 400 = 2,800\end{aligned}$$

Final Answer

2,800 — Option C

MCQ 85

A town has 25,000 people. Its population increases by 12%. Find the new population.

- A. 27,000 B. 27,500
C. 28,000 D. 28,500

Solution

$$\begin{aligned}\text{Increase} &= \frac{12}{100} \times 25,000 = 3,000 \\ \text{New population} &= 25,000 + 3,000 = 28,000\end{aligned}$$

Final Answer

28,000 — Option C

MCQ 86

A school has 1,500 students. If 48% are girls, how many are boys?

- A. 720 B. 750
C. 780 D. 820

Solution

$$\begin{aligned}\text{Girls} &= \frac{48}{100} \times 1,500 = 720 \\ \text{Boys} &= 1,500 - 720 = 780\end{aligned}$$

Final Answer

780 — Option C

MCQ 87

A candidate answers 126 out of 180 questions correctly. What percentage is correct?

- A. 65% B. 70%
C. 72% D. 75%

Solution

$$\begin{aligned}&\frac{126}{180} \times 100 \\ &= \frac{7}{10} \times 100 = 70\%\end{aligned}$$

Final Answer

70% — Option B

MCQ 88

A candidate scores 64%, which is 24 marks above the pass mark of 56%. Find the total marks.

- A. 250 B. 275
C. 300 D. 325

Solution

$$\begin{aligned}(64 - 56)\% &= 8\% \\ 8\% \text{ of Total} &= 24 \\ \text{Total} &= 24 \times \frac{100}{8} = 300\end{aligned}$$

Final Answer

300 — Option C

MCQ 89

In an election, a candidate receives 54% of 25,000 valid votes. How many votes does the candidate receive?

- A. 12,500 B. 13,000
C. 13,500 D. 14,000

Solution

$$\begin{aligned}\text{Votes} &= \frac{54}{100} \times 25,000 \\ &= 54 \times 250 = 13,500\end{aligned}$$

Final Answer

13,500 — Option C

MCQ 90

A class has 60 students. 40% are boys. How many girls are there?

- A. 24 B. 30
C. 36 D. 40

Solution

$$\begin{aligned}\text{Boys} &= \frac{40}{100} \times 60 = 24 \\ \text{Girls} &= 60 - 24 = 36\end{aligned}$$

Final Answer

36 — Option C

MCQ 91

If A is 25% more than B and B = 320, find A.

- A. 360 B. 380
C. 400 D. 420

Solution

$$\begin{aligned}A &= 320 \left(1 + \frac{25}{100}\right) \\ &= 320 \times \frac{5}{4} = 400\end{aligned}$$

Final Answer

400 — Option C

MCQ 92

If A is 40% less than B and B = 500, find A.

- A. 250 B. 280
C. 300 D. 320

Solution

$$\begin{aligned}A &= 500 \left(1 - \frac{40}{100}\right) \\ &= 500 \times \frac{6}{10} = 300\end{aligned}$$

Final Answer

300 — Option C

MCQ 93

A price rises by 20%. By what percentage must consumption fall so expenditure is unchanged?

- A. 15% B. $16\frac{2}{3}\%$
C. 20% D. 25%

Solution

$$\text{Old} = 100 \times 100 = 10,000$$

$$\text{New price} = 120$$

$$\text{New quantity} = \frac{10,000}{120} = 83\frac{1}{3}$$

$$\text{Decrease} = 100 - 83\frac{1}{3} = 16\frac{2}{3}\%$$

Final Answer $16\frac{2}{3}\%$ — Option B**MCQ 94**

A price falls by 25%. By what percentage may consumption rise so expenditure is unchanged?

- A. 25% B. 30%
C. $33\frac{1}{3}\%$ D. 40%

Solution

$$\text{Old} = 100 \times 100 = 10,000$$

$$\text{New price} = 75$$

$$\text{New quantity} = \frac{10,000}{75} = 133\frac{1}{3}$$

$$\text{Increase} = 33\frac{1}{3}\%$$

Final Answer $33\frac{1}{3}\%$ — Option C

MCQ 95

An item costs Rs. 3,600. Sales tax is 15%. Find the tax.

- A. Rs. 480 B. Rs. 500
C. Rs. 540 D. Rs. 600

Solution

$$\begin{aligned}\text{Tax} &= \frac{15}{100} \times 3,600 \\ &= 15 \times 36 = 540\end{aligned}$$

Final Answer

Rs. 540 — Option C

MCQ 96

A salesperson earns 8% commission on sales of Rs. 62,500. Find the commission.

- A. Rs. 4,000 B. Rs. 4,500
C. Rs. 5,000 D. Rs. 5,500

Solution

$$\begin{aligned}\text{Commission} &= \frac{8}{100} \times 62,500 \\ &= 8 \times 625 = 5,000\end{aligned}$$

Final Answer

Rs. 5,000 — Option C

MCQ 97

A salary of Rs. 48,000 is reduced by 12.5%. Find the new salary.

- A. Rs. 40,000 B. Rs. 41,000
C. Rs. 42,000 D. Rs. 44,000

Solution

$$\begin{aligned}12.5\% &= \frac{1}{8} \\ \text{Reduction} &= \frac{1}{8} \times 48,000 = 6,000 \\ \text{New salary} &= 48,000 - 6,000 = 42,000\end{aligned}$$

Final Answer

Rs. 42,000 — Option C

MCQ 98

A machine worth Rs. 120,000 depreciates by 10%. Find its new value.

- A. Rs. 106,000 B. Rs. 108,000
C. Rs. 110,000 D. Rs. 112,000

Solution

$$\begin{aligned}\text{Depreciation} &= \frac{10}{100} \times 120,000 = 12,000 \\ \text{New value} &= 120,000 - 12,000 = 108,000\end{aligned}$$

Final Answer

Rs. 108,000 — Option B

MCQ 99

If 30% of A equals 45% of B, then A is what percent of B?

- A. 125% B. 140%
C. 150% D. 160%

Solution

$$\begin{aligned}\frac{30}{100}A &= \frac{45}{100}B \\ 30A &= 45B \\ \frac{A}{B} &= \frac{45}{30} = \frac{3}{2} \\ \frac{A}{B} \times 100 &= 150\%\end{aligned}$$

Final Answer

150% — Option C

MCQ 100

A number is 80% of another number. The second is what percent of the first?

- A. 120% B. 125%
C. 130% D. 140%

Solution

$$\begin{aligned}A &= 80\% \text{ of } B = \frac{4}{5}B \\ \frac{B}{A} &= \frac{5}{4} \\ \frac{5}{4} \times 100 &= 125\%\end{aligned}$$

Final Answer

125% — Option B

Percentage - Rapid Revision Grid

Convert quickly

$$1\% = \frac{1}{100}, \quad 2\% = \frac{1}{50}, \quad 4\% = \frac{1}{25}, \quad 5\% = \frac{1}{20}$$

$$8\frac{1}{3}\% = \frac{1}{12}, \quad 12.5\% = \frac{1}{8}, \quad 16\frac{2}{3}\% = \frac{1}{6}$$

$$20\% = \frac{1}{5}, \quad 25\% = \frac{1}{4}, \quad 40\% = \frac{2}{5}, \quad 75\% = \frac{3}{4}$$

Fast percentage of a number

$$35\% \text{ of } 240 = (30\% + 5\%) \text{ of } 240 = 72 + 12 = 84$$

$$12.5\% \text{ of } 640 = \frac{1}{8}(640) = 80$$

$$75\% \text{ of } 360 = \frac{3}{4}(360) = 270$$

Accuracy check

$$\text{Part} < \text{Whole} \Rightarrow \% < 100\%$$

$$\text{Part} > \text{Whole} \Rightarrow \% > 100\%$$

$$+r\%, -r\% \Rightarrow -\frac{r^2}{100}\%$$

Reverse quickly

$$\text{After } 25\% \uparrow: \text{Original} = \text{Final} \times \frac{4}{5}$$

$$\text{After } 20\% \uparrow: \text{Original} = \text{Final} \times \frac{5}{6}$$

$$\text{After } 20\% \downarrow: \text{Original} = \text{Final} \times \frac{5}{4}$$

Successive change

$$+10\%, +10\% \Rightarrow +21\%$$

$$+20\%, -20\% \Rightarrow -4\%$$

$$-20\%, -10\% \Rightarrow -28\%$$