Graphic Era Hill University
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PERCENTAGE

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Percentage - 1

- Concept of percentage & Practice from PPT
- Product constant (Price depreciation/increase)
- Product change (Price depreciation/increase)
- Successive Change
- Fraction percentage change

Percentage

Concept:

- Percent means "out of one hundred" or "per 100" and is one way of expressing a part-to-whole relationship.
- For example, two glasses of juice out of the eight-glasses would be 2/8, which also equals 25/100, or 25%.

Percentage to Decimal Conversion or Vice-Versa:

- In order to convert a percentage into a fraction we have to divide the number by 100.

  Example: 25% = 25/100 = 1/4; 45% = 45/100 = 9/20

- In order to convert a fraction into a percentage we have to multiply the number by 100.

  Example: 1/5 = (100/5)% = 20%; 4/25 = (400/25)% = 16%

Percentage

Remember the following conversion to increase your calculation speed:

Fraction value	Percentage	Fraction value	Percentage	Fraction value	Percentage
1/1	100 %	1/11	9.09 %	1/21	4.76 %
1/2	50 %	1/12	8.33 %	1/22	4.54 %
1/3	33.33 %	1/13	7.69 %	1/23	4.34 %
1/4	25 %	1/14	7.14 %	1/24	4.167 %
1/5	20 %	1/15	6.67 %	1/25	4 %
1/6	16.67 %	1/16	6.25 %	1/26	3.84 %
1/7	14.28 %	1/17	5.88 %	1/27	3.70 %
1/8	12.5 %	1/18	5.56 %	1/28	3.57 %
1/9	11.11 %	1/19	5.26 %	1/29	3.44 %
1/10	10 %	1/20	5 %	1/30	3.33 %

Percentage

Basic concepts on percentage:

1. What is y percent of number A?

Required number = $\left(\frac{y \times A}{100}\right)$

Comparison between 2 variables:

1. A is what percent of B?

Required percentage = $\left(\frac{A}{B} \times 100\right)$ %

2. B is what percent of A?

Required percentage = $\left(\frac{B}{A} \times 100\right)$ %

3. A is what percent less than B?

Required percentage= $\left(\frac{B - A}{B} \times 100\right)$ %

4. B is what percent more than A?

Required percentage= $\left(\frac{B - A}{A} \times 100\right)$ %

Percentage

1. 65g is what per cent of 2 kg ?

A] 13 / 4 %

B] 65 / 2 %

C] 15 / 8 %

D] 13 / 8 %

Percentage

2. Half of 1 per cent, written as a decimal, is:

A] 0.2

B] 0.002

C] 0.005

D] 0.05

Percentage

3. 25% of 120 + 40% of 380 = ? of 637

A] 2 / 7

B] 1 / 7

C] 3 / 7

D] 4 / 7

Percentage

4. If 15% of (A + B) = 25% of (A – B), then what per cent of B is equal to A?

A] 10%

B] 60%

C] 200%

D] 400%

Percentage

5. If 8% of x is the same as 4% of y, then 20% of x is the same as:?

A] 10% of y

B] 16% of y

C] 80% of y

D] 50% of y

Percentage

6. If x% of y% of 80 is the same as 1.25% of 1800, then the value of xy is

A] 3010

B] 3250

C] 2812.5

D] 3420

Percentage

7. Two numbers are respectively 20% and 50% of a third number. What per cent is the first number of the second?

A] 10%

B] 20 %

C] 30%

D] 40%

Percentage

8. Two numbers are respectively 25% and 20% less than a third number. What per cent is the first number of the second ?

A] 5 %

B] 75 %

C] 80%

D] 93.75 %

Percentage

9. If 62(1/2)% of a number is subtracted from the number itself, then result becomes 24. Find the number?

A] 64
B] 48
C] 72
D] 80

Percentage

10. Instead of multiplying a number by 7, the number is divided by 7. What is the percentage of error obtained?

A] 99.99 %

B] 97.96 %

C] 98. 74 %

D] 98.38 %

Percentage

Product constant Ratio (decreases / increase) / comparison

- If the price of a commodity increases by R%, then the reduction in consumption so as not to increase the expenditure is

OR

- If the income of a man is R% more than another man, then income of another man is less in comparison to the 1st man by

$$= \left(\frac{R}{100 + R} \times 100 \right) \%$$

Percentage

Product constant Ratio (decreases / increase) / comparison

- If the price of a commodity decreases by R%, then the increase in consumption so as not to decrease the expenditure is

OR

- If the income of a man is R% less than another man, then income of another man is more in comparison to the 1st man by

$$= \left(\frac{R}{100 - R} \times 100 \right) \%$$

Percentage

11. B got 20% marks less than A. What per cent marks did A got more than B ?

A] 20%

B] 25%

C] 12%

D] 80%

Percentage

12. A's salary is 14.28% more than that of B. Then B's salary is less than that of A by:

A] 50%

B] 33 (1 / 3)%

C] 33(1 / 4)%

D] 12.5%

Percentage

13. If the price of oil is decreased by 20 % then how much percent can a family increase its consumption so as to maintain the initial expenditure?

A] 25 %

B] 20 %

C] 30 %

D] None

Percentage

14. If the price of rice is increased by 40 % then how much percent should a family decreased its consumption so as to maintain the initial expenditure?

A] 200 / 7%

B] 300 / 7%

C] 100 / 7%

D] None

Percentage

15. The price of onions has been increased by 44.44%. In order to keep the expenditure on onions the same the percentage of reduction in consumption has to be

A] 80%

B] 400 / 13%

C] 75%

D] None

Percentage

16. Due to 25% fall in the rate of eggs, one can buy 2 dozen eggs more than before by investing Rs.162. Then the original rate per egg is

A] Rs. 27

B] Rs. 2.5

C] Rs. 2.25

D] Rs. 3

Percentage

17. A reduction of 300 / 7% in the price of sugar enables a person to obtain 6 kg more for Rs. 280. Then the price per kg after reduction was :

A] Rs. 35

B] Rs. 20

C] Rs. 10

D] Rs.12

Percentage

18. The price of sugar is increased by 16(2/3)% and the consumption of family is decreased by 20%. Find the percentage change in its expenditure?

A] 10% increase

B] 6(2/3)% decrease

C] 8(1/3)% increase

D] 12% decrease

Percentage

19. The number of seats in a cinema hall is increased by 25%. The cost of each ticket is also increased by 10%. The effect of these changes on the revenue collection will be an increase of

A] 37.5%

B] 45.5%

C] 47.5%

D] 49.5%

Percentage

20. The price of sugar is increased by 25/3 % and the expenditure of family is decreased by 12/5 %. Find the percentage change in consumption?

A] 14/3% increase

B] 10% decrease

C] 5(11/15)% increase

D] 12% decrease

Percentage

21. The price of rice increases by 35% and so the expenditure of a family is increased by 20%. If the family purchased 45 kg rice earlier, then find the quantity it would buy now?

A]42 kg

B] 40 kg

C] 32 kg

D] 35 kg

Percentage

Successive Change:

- When the value of an object is first changed (increased or decreased) by a% and other value is changed (increased or decreased) by b%, then the net percentage change in area is

OR

When a number is first changed (increased or decreased) by a % and further changed (increased or decreased)by b %, total percentage change in number is

$$= \left(\pm a \ \pm b \pm \frac{ab}{100}\right)\%$$

NOTE: Increase is represented by a positive sign, decrease is represented by a negative sign. Net percentage change of a increase or a decrease is according to the sign (positive/negative).This net effect is also called successive percentage.

Percentage

22. If the length of a rectangle is increased by 10% while its breadth is decreased by 20%. Find the net percentage change in its area?

A] 12% increase

B] 15% increase

C] 12% decrease

D] 15% decrease

Percentage

23. If the radius of a circle is increased by 35%, then the percent increase in its area is

A] 70%

B] 77.25%

C] 57.75%

D] 82.25%

Percentage

24. If the side of a cube is increased by 10%, then the percent increase in its volume is :

A] 33.1%

B] 36%

C] 44%

D] 40%

Percentage

25. The price of a shirt was increased by 20% and subsequently decreased by 20% . What is final percentage change in the price?

A] 5%

B] 2%

C] 4%

D] No change

Percentage

26. A man spends 60% of his income. One year later, his income is increased by 30% and his expenditure is increased by 20%. Find the percentage increase in his savings.?

A] 48%
B] 28%
C] 45%
D] 25%

Percentage

27. Numerator and denominator of a fraction are increased by 40 % and 20 % respectively, the fraction becomes 5 / 6. Find original fraction.

A] 2 / 3

B] 3 / 2

C] 5 / 7

D] 6 / 5

Percentage

28. Numerator of a fraction decreased by 15 and denominator same fraction increased by 20 %, the fraction becomes 5 / 6. Find inverse of original fraction.

A] 17 / 20

B] 19 / 13

C] 12 / 17

D] 13 / 18

Any Doubts???