



Percentage (4): Word Problems

Do these sums. Show all your working clearly.

(1) Suni had \$52. She spent 30% of it. How much money did she spend?

(2) The cost price of a television set was \$760. It was sold at a discount of 15%.
What was the selling price?

(3) There were 30 workers in a factory in May. In June, the number of workers increased by 20%. How many workers were there in June?

(4) A supermarket stocked 210 kg of sugar. 55% was sold in a week. How many kilograms of sugar were left unsold at the end of that week?

(5) In 1995, the school stamp club had 660 members. In 1996, it had 600 members. What was the percentage decrease in membership?

(6) Meiqi deposits \$2500 in a bank. The bank pays 6.5% interest per year. What is the total amount of money that she can withdraw after 1 year?

(7) If 35% of a number is $612\frac{1}{2}$, what is the number?

(8) I gave 10% of my money to Xinhui, 20% to Xinguan and kept the remaining \$140 for myself. How much money did Xinguan get?

(9) Susan and her family ate 65% of a bunch of rambutans. They had 105 rambutans left. How many rambutans did they have at first?

(10) Mr Hua's income was increased by 5% in May. If he received \$1102.50 in May, find his income in April.

(11) Defa's age is 80% less than that of his grandfather. If Defa is 12 years old, how old is his grandfather?

(12) Luxi had 50 balloons. 40% of them burst and 20% of the remainder were given to Zhuqian. How many balloons did Luxi have left?

ANSWERS

Exercise 1

- (1) 42 (2) \$516 (3) 31 (4) 3.2 kg
 (5) $28\frac{1}{12} \ell$ (6) 56 (7) 200
 (8) 9 kg (9) \$2500 (10) $\frac{1}{11}$

Exercise 2

- (1) (a) $\$(x + 53)$ (b) \$58 (c) \$63
 (2) (a) $\frac{24}{y}$ (b) 8 (c) 6
 (3) (a) $\$(m - 2.50)$ (b) \$7.50 (c) \$3
 (4) (a) $5L \text{ cm}^2$ (b) 40 cm^2 (c) 60 cm^2
 (5) (a) $\$12(S - 1500)$ (b) \$9600 (c) \$15 600
 (6) (a) $\left(\frac{N}{5} - 100\right) \text{ g}$ (b) 1200 g (c) 1700 g

Exercise 3

- A (1) 7 (2) 28 (3) 100 (4) 5
 (5) 4 (6) 9 (7) 80 (8) 25
 B (1) 45 (2) 35 (3) 1 (4) 3
 (5) 105 (6) 192 (7) 11 (8) 10
 C (1) $2m$ (2) $3N$ (3) $6p$ (4) $9q$
 (5) $5b$ (6) $12a$ (7) $7g$ (8) $8e$
 (9) $10z - 5$ (10) $5t - 6$ (11) $f - 6$
 (12) $8d + 1$ (13) $3 + 2a$ (14) $2h + 2$
 (15) $8k$ (16) $15 - r$

Exercise 4

- (1) (a) 6 (b) 5 (c) 3 (d) 5
 (2) b, c (3) a, d (4) b (5) b

Exercise 5

- (1) (a) 2 : 3 (b) 3 : 2
 (2) (a) 7 : 10 : 4 (b) 10 : 21
 (3) (a) $\frac{4}{5}$ (b) $\frac{5}{9}$
 (4) (a) $\frac{7}{3}$ (b) $\frac{3}{7}$ (c) $\frac{7}{10}$
 (5) (a) 5 : 6 (b) 3 (c) $\frac{1}{2}$
 (6) (a) 2 : 3 (b) $\frac{3}{2}$
 (7) 12 (8) 24 cm (9) 27, 18, 45
 (10) (a) 4 : 5 (b) 125
 (11) $14\frac{1}{2} \text{ kg}$ (12) 900 m^2

Exercise 6

- (1) 30 (2) 50 g
 (3) $12\frac{8}{9} \text{ cm}$, $9\frac{2}{3} \text{ cm}$, $6\frac{4}{9} \text{ cm}$
 (4) 160 cm (5) 52 (6) 140

Exercise 7

- (1) 5 : 2 (2) \$25 (3) 40 (4) 600
 (5) 140 m (6) Team A: 210, Team B: 90

Exercise 8

- A (1) $37\frac{1}{2}\%$ (2) 44% (3) 38% (4) 60%
 B (1) 25% (2) 40% (3) $62\frac{1}{2}\%$
 C (1) 32% (2) 10% (3) 20% (4) $37\frac{1}{2}\%$
 (5) 80% (6) $12\frac{1}{2}\%$ (7) 40% (8) 60%
 D (1) $\frac{1}{25}$ (2) $\frac{2}{25}$ (3) $\frac{17}{100}$ (4) $\frac{3}{10}$
 (5) $\frac{73}{100}$ (6) $\frac{4}{5}$ (7) $\frac{99}{100}$ (8) 1
 E (1) 50% (2) 1% (3) 26% (4) 48%
 (5) 1.2% (6) 0.7% (7) 40.3% (8) 39.1%
 F (1) 0.03 (2) 0.06 (3) 0.07 (4) 0.29
 (5) 0.33 (6) 0.56 (7) 0.7 (8) 0.9

Exercise 9

- (1) 20% (2) 40% (3) 50% (4) 75%
 (5) 60% (6) 25% (7) 18% (8) 8%
 (9) 16% (10) 49% (11) 20% (12) 15%

Exercise 10

- (1) 8% (2) 52% (3) 30% (4) 32%
 (5) 25% (6) 160% (7) 20% (8) 120%
 (9) 270% (10) 150%

Exercise 11

- (1) \$15.60 (2) \$646 (3) 36
 (4) 94.5 kg (5) $9\frac{1}{11}\%$ (6) \$2662.50
 (7) 1750 (8) \$40 (9) 300
 (10) \$1050 (11) 60 (12) 24