

1. A price of 80 rises by 15%. Find the new price.

2. A 25% discount leaves a price of 90. Find the original price.

3. Find concentrate in a 700 ml mixture at concentrate:water=2:5.

4. At 1:25000, find the real length in km for 4 cm.

5. Use $C=3L$ to find C for $L=6$.

6. Direct proportion needs a straight line through the origin.

☐ True ☐ False

7. Converting density from g/cm^3 to kg/m^3 leaves its numerical value unchanged.

☐ True ☐ False

8. Volume scales by the cube of the length factor.

☐ True ☐ False

9. Simple and compound interest give the same balance after two years.

☐ True ☐ False

10. Depositing before interest gives the same result as depositing after interest.

☐ True ☐ False

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1. **92.0**

Multiply by 1.15: $80 \times 1.15 = 92$.

2. **120.0**

The sale price is 75% of the original: $90 / 0.75 = 120$.

3. **200.0**

$700 / (2 + 5) \times 2 = 200$ ml.

4. **1.0**

$4 \times 25000 / 100000 = 1$ km.

5. **18.0**

Substitute $L=6$: $C=18$.

6. **True**

True. Direct proportion needs a straight line through the origin; $y=2x+3$ is not direct proportion.

7. **False**

$1 \text{ g/cm}^3 = 1000 \text{ kg/m}^3$, so the number changes by a factor of 1000.

8. **True**

True. Volume scales by the cube of the length factor: doubling lengths makes the volume 8 times larger.

9. **False**

Compound interest also earns interest on interest, so after two years its balance is larger.

10. **False**

A deposit made before interest earns interest for that period, so the balance is larger.