Solutions

Award method and answer marks as indicated; accept equivalent correct methods.

2.1

- $Q = (18/100) \times 250 = \mathbf{45}$ yuan.

2.2

- $p = (42/60) \times 100 = \mathbf{70}\%$.

2.3

- $p = ((80 - 68)/80) \times 100 = \mathbf{15}\%$.

2.4

- Profit $G = 200 - 160 = 40$; $p = (40/160) \times 100 = \mathbf{25}\%$.

3.1

(a)

- $S = P(1 - r/100) = 1200(0.85) = \mathbf{1020}$ yuan.

(b)

- $D = 0.30S = 0.30(1020) = \mathbf{306}$ yuan.

(c)

- $A = 1200(1.04)^2 = 1297.92$; $I = A - P = \mathbf{97.92}$ yuan.

3.2

(a)

- Use multipliers: $P = 800(1.10)(0.90) = \mathbf{792}$ yuan.
- Overall change $p = (792 - 800)100/800 = -\mathbf{1}\%$, a 1% decrease.

(b)

- Simple interest $I_s = Prt = 800(0.05)(2) = \mathbf{80}$ yuan.
- Compound interest $I_c = P(1 + r)^2 - P = 800(1.05)^2 - 800 = \mathbf{82}$ yuan.
- Compound gives **2 yuan more**.

3.3

- Write it as a fraction of the whole and multiply by 100: $\dfrac{18}{240} \times 100$.
- This gives $\mathbf{7.5}\%$.

3.4

- After a 30% reduction the price is 70% of the original, so $0.7 \times \text{original} = 63$.
- Divide by the multiplier: original $= 63 \div 0.7$.
- Original price = \$**90**.