

S& Revision Homework 1

①

$$\begin{aligned} \text{a) } 4a^2b &= 4 \times (-3)^2 \times 2 \\ &= 4 \times 9 \times 2 \\ &= 72 \end{aligned}$$

$$\begin{aligned} \text{b) } 3b - 4a &= 3 \times 2 - 4 \times (-3) \\ &= 6 + 12 \\ &= 18 \end{aligned}$$

$$\begin{aligned} \text{c) } b(a-b)^2 &= 2(-3-2)^2 \\ &= 2 \times (-5)^2 \\ &= 2 \times 25 \\ &= 50 \end{aligned}$$

② a) $12p^2 - 18$
 $= 6(2p^2 - 3)$

$$\begin{aligned} \text{b) } \frac{12p^2 - 18}{3p} &= \frac{6(2p^2 - 3)}{3p} \\ &= \frac{2(2p^2 - 3)}{p} \end{aligned}$$

③ a) $1 : 200\,000$
 $1\text{cm} : 200\,000\text{cm} \div 100$
 $1\text{cm} : 2000\text{m} \div 1000$
 $: 2\text{km}$
 $3\text{cm} : 3 \times 2$
 $= 6\text{km}$

b) $1\text{cm} : 2\text{km}$
 $5.2 \div 2$
 $= 2.6\text{cm}$

$$(4) a) \frac{3}{7} + \frac{2}{5}$$

$$= \frac{15}{35} + \frac{14}{35}$$

$$= \frac{29}{35}$$

$$b) 4\frac{3}{4} + \frac{2}{3} - \frac{3}{8}$$

$$= \frac{19}{4} + \frac{2}{3} - \frac{3}{8}$$

$$= \frac{114}{24} + \frac{16}{24} - \frac{9}{24}$$

$$= \frac{121}{24}$$

$$= 5\frac{1}{4}$$

$$c) 6\frac{1}{2} \div 1\frac{1}{4}$$

$$= \frac{13}{2} \div \frac{5}{4}$$

$$= \frac{13}{2} \times \frac{4}{5}$$

$$= \frac{26}{5}$$

$$= 5\frac{1}{5}$$

(5)

$$\div 3 \quad 3 \text{ painters} \Rightarrow 12 \text{ hours}$$

$$\times 4 \quad 1 \text{ painter} \Rightarrow 36 \text{ hours} \quad \times 3$$

$$\times 4 \quad 4 \text{ painters} \Rightarrow 9 \text{ hours} \quad \div 4$$

$$(6) a) \frac{3}{9}$$

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

$$b) \text{ No. parts} = 4 + 2 + 3$$

$$= 9$$

$$\text{Value of a part} = 270 \div 9$$

$$= 30g.$$

$$F : S : B$$

$$4 : 2 : 3$$

$$4 \times 30 : 2 \times 30 : 3 \times 30$$

$$120g : 60g : 90g$$

$$(7) 4(x-3) - 3(2-x) + 5$$

$$= 4x - 12 - 6 + 3x + 5$$

$$= 7x - 13$$