

## S2 Revision Homework 1

- ① If  $a = -3$  and  $b = 2$  find the values of  
(a)  $4a^2b$       (b)  $3b - 4a$       (c)  $b(a-b)^2$

- ② (a) Factorise  $12p^2 - 18$   
(b) Hence simplify  $\frac{12p^2 - 18}{3p}$

- ③ A map has a scale  $1:200\,000$

(a) On the map two towns are  $3\text{cm}$  apart. How far is the actual distance between the towns?

(b) What distance on the map would represent  $5.2\text{km}$  in real life?

- ④ Calculate

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

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

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

- ⑤ It takes 3 painters 12 hours to paint a wall. How much time would be saved if an extra painter joined the team?

- ⑥ Jane makes shortbread by mixing flour, sugar and butter in the ratio  $4:2:3$ .

(a) What fraction of the shortbread is butter?

(b) How much of each ingredient does she need to make  $270\text{g}$  of shortbread?

- ⑦ Simplify the expression  $4(x-3) - 3(2-x) + 5$