SCALE AS RATIO

REPRESENTATIVE FRACTION

for example:

(i) 1 : 200 000

1 cm = 200 000 cm

= 2 000 m

1 cm = 2 km

(ii) 1 : 50 000

1 cm = 50 000 cm

= 500 m

1 cm = 0.5 km

REPRESENTATIVE FRACTION

Examples:

(i) scale 1 : 500
map 8.3cm

real distance
8.3cm x 500
= 4150 cm
= 41.5 m

(ii) scale 1 : 40
real 9m

map distance
9m ÷ 40
= 900 cm ÷ 40
= 22.5 cm

(iii) real 7m
map 3.5cm

rep. fraction
3.5cm : 7m
= 3.5cm : 700cm
= 1 : 200

by 700 ÷ 3.5

1. Calculate the 'real life' distances in metres,

(a) scale 1 : 500 map distance (i) 6.0 cm (ii) 8.5 cm

(b) scale 1 : 200 map distance (i) 7.0 cm (ii) 9.5 cm

2. Calculate the map distances in centimetres,

(a) scale 1 : 40 real distance (i) 8 m (ii) 6.4 m

(b) scale 1 : 20 000 real distance (i) 6 km (ii) 9 km

3. Write the scale as a reresentative fraction,

(a) map distance 4 cm real distance 8 m

(b) map distance 2.5 cm real distance 1 m

1. (a) (i) 30m (ii) 42.5m (b) (i) 14m (ii) 19m

2. (a) (i) 20cm (ii) 16cm (b) (i) 30cm (ii) 45cm

3. (a) 1 : 200 (b) 1 : 40

1. Calculate the 'real life' distances in metres,

(a) scale 1 : 200 map distance (i) 4.0 cm (ii) 12.4 cm

(b) scale 1 : 40 map distance (i) 6.0 cm (ii) 22.5 cm

2. Calculate the map distances in centimetres,

(a) scale 1 : 200 real distance (i) 24 m (ii) 5.6 m

(b) scale 1 : 4 000 real distance (i) 360m (ii) 60m

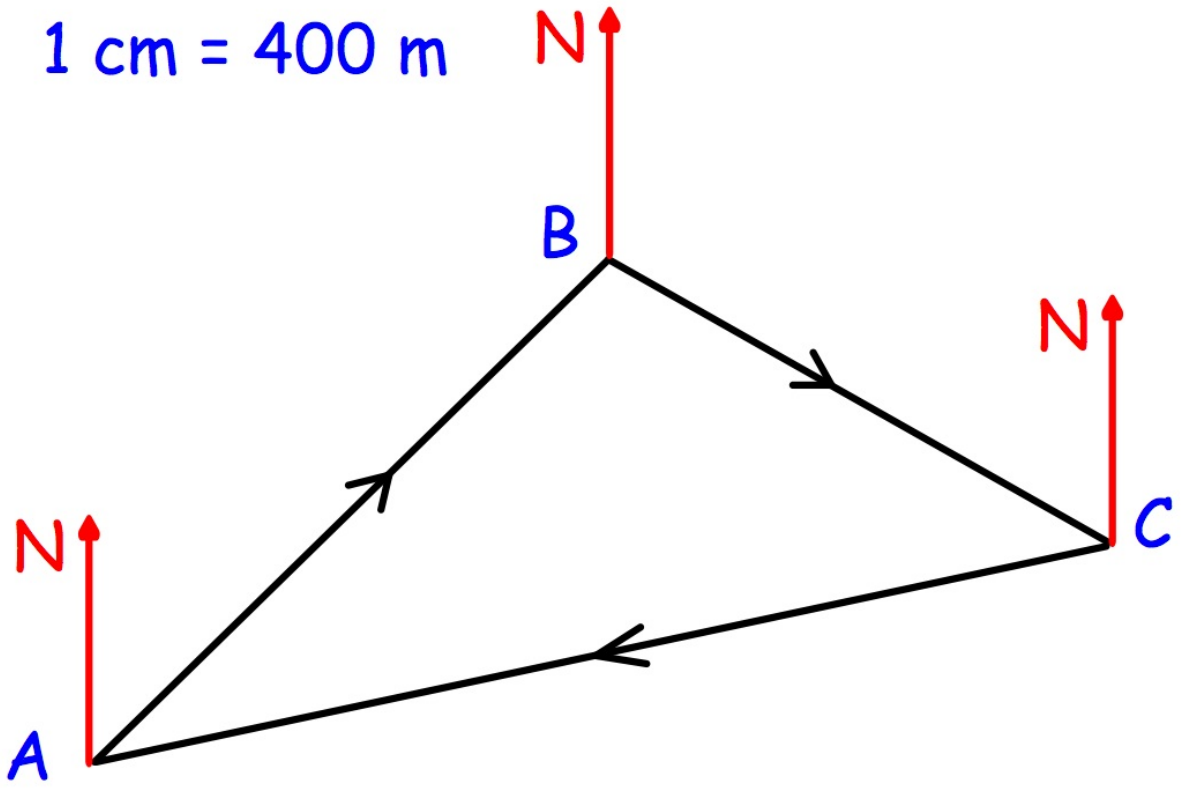
3. Write the scale as a reresentative fraction,

(a) map distance 4 cm real distance 20 m

(b) map distance 2.4 cm real distance 6 m

4.

1 cm = 400 m



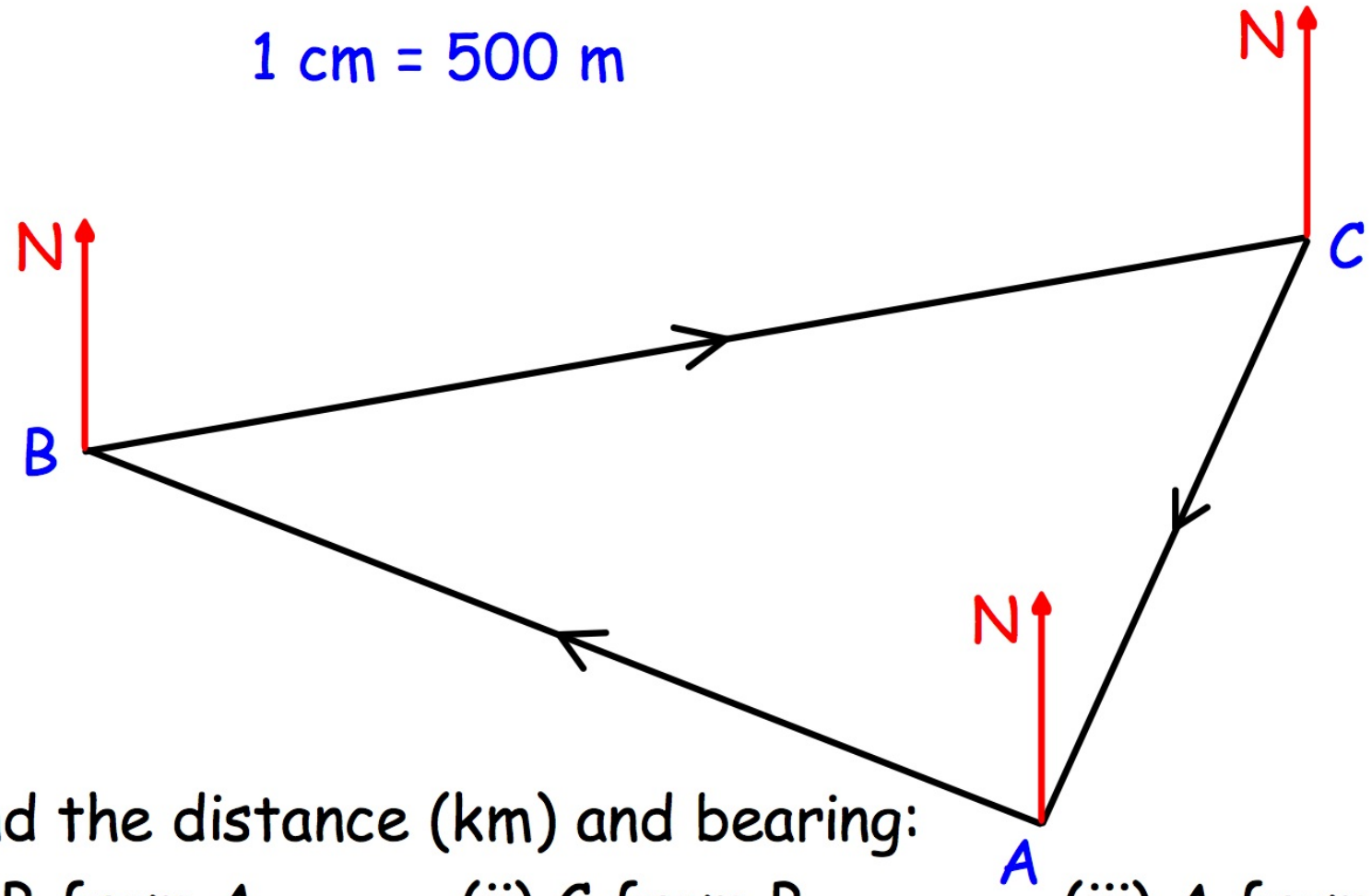
Find the distance (km) and bearing:

(i) B from A (ii) C from B (iii) A from C

and hence calculate the back-bearings:

(iv) A from B (v) B from C (vi) C from A

5. 1 cm = 500 m



Find the distance (km) and bearing:

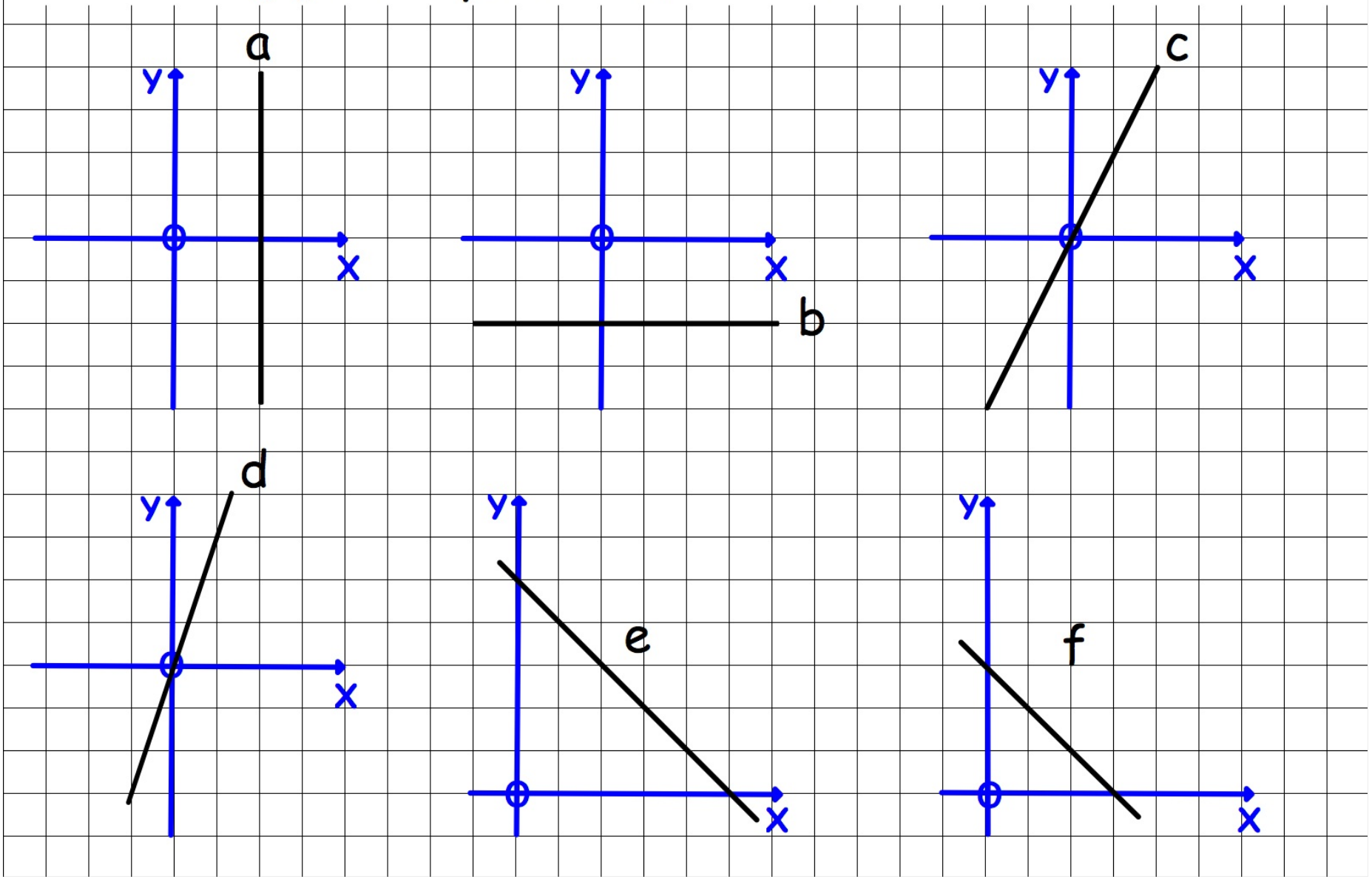
(i) B from A (ii) C from B (iii) A from C

and hence calculate the back-bearings:

(iv) A from B (v) B from C (vi) C from A

6. Write (i) the coordinates of 3 points on the line

(ii) the equation of the line



1. (a) (i) 8m (ii) 24.8m (b) (i) 2.4m (ii) 9m

2. (a) (i) 12cm (ii) 2.8cm (b) (i) 9cm (ii) 1.5cm

3. (a) 1 : 500 (b) 1 : 250

4. (i) km , 046° (ii) km , 120° (iii) km , 257°
(iv) 226° (v) 300° (vi) 077°

5. (i) km , 291° (ii) km , 080° (iii) km , 205°
(iv) 111° (v) 260° (vi) 025°

6. a (i) eg. (2,-1) , (2,0) , (2,3) (ii) $x = 2$
b (i) eg. (-1,-2) , (0,-2) , (2,-2) (ii) $y = -2$
c (i) eg. (-1,-2) , (0,0) , (1,2) (ii) $y = 2x$
d (i) eg. (-1,-3) , (0,0) , (1,3) (ii) $y = 3x$
e (i) eg. (0,5) , (1,4) , (2,3) (ii) $x + y = 5$
f (i) eg. (0,3) , (1,2) , (2,1) (ii) $x + y = 3$