

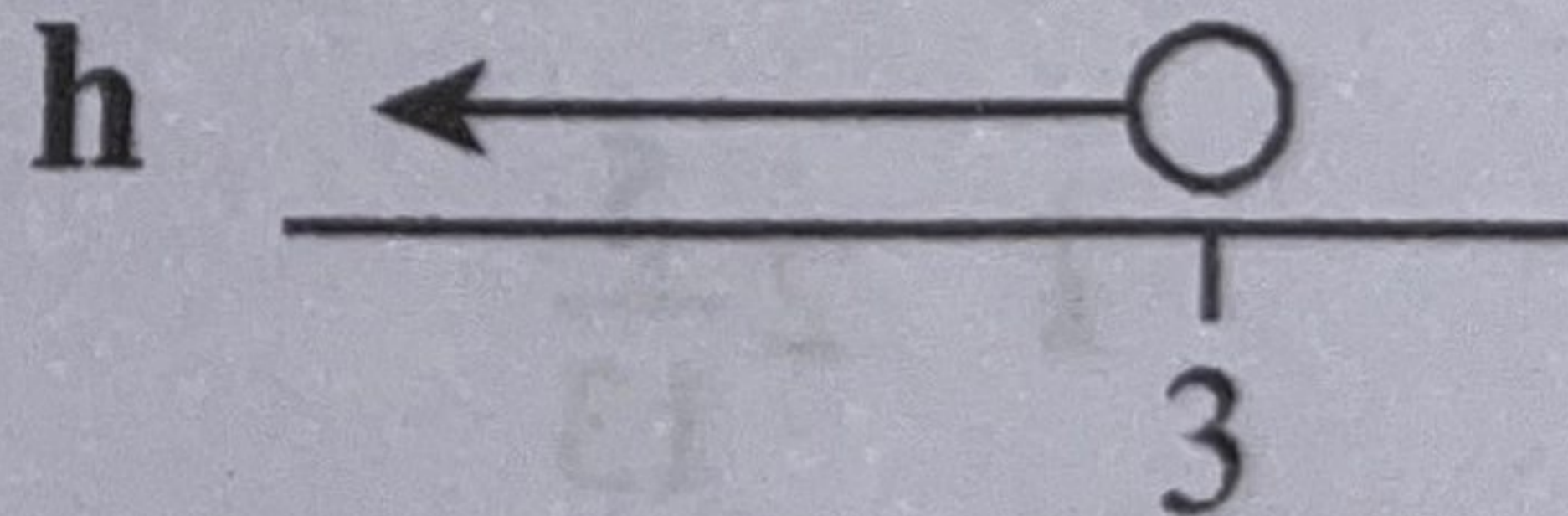
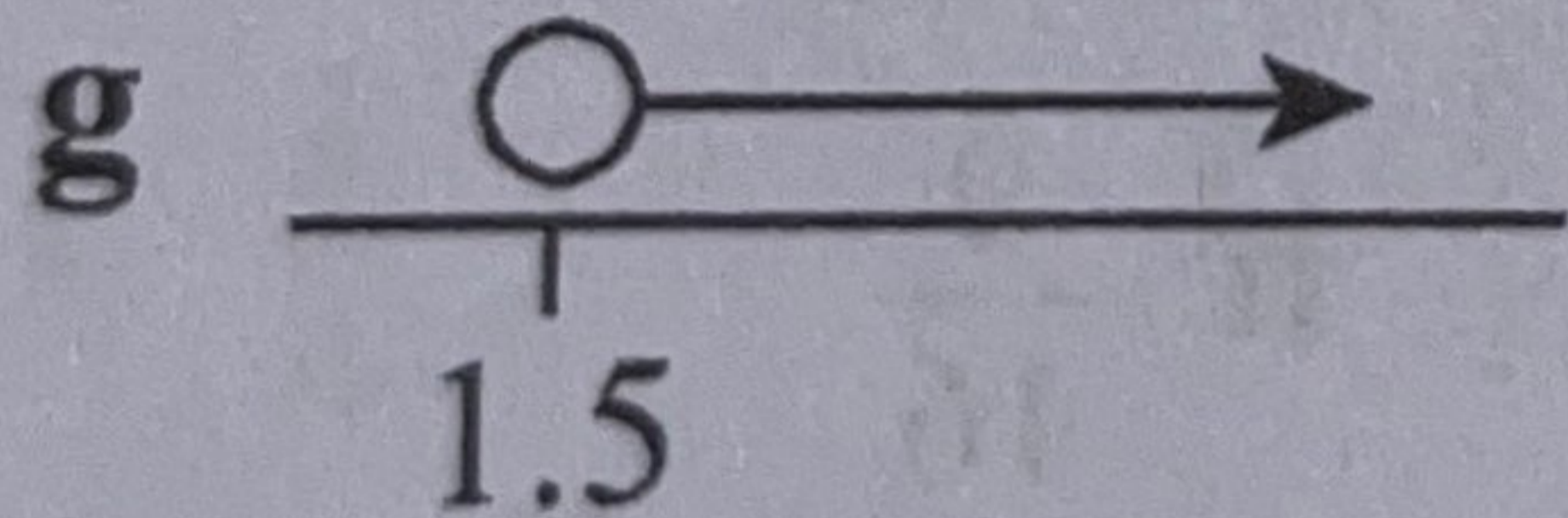
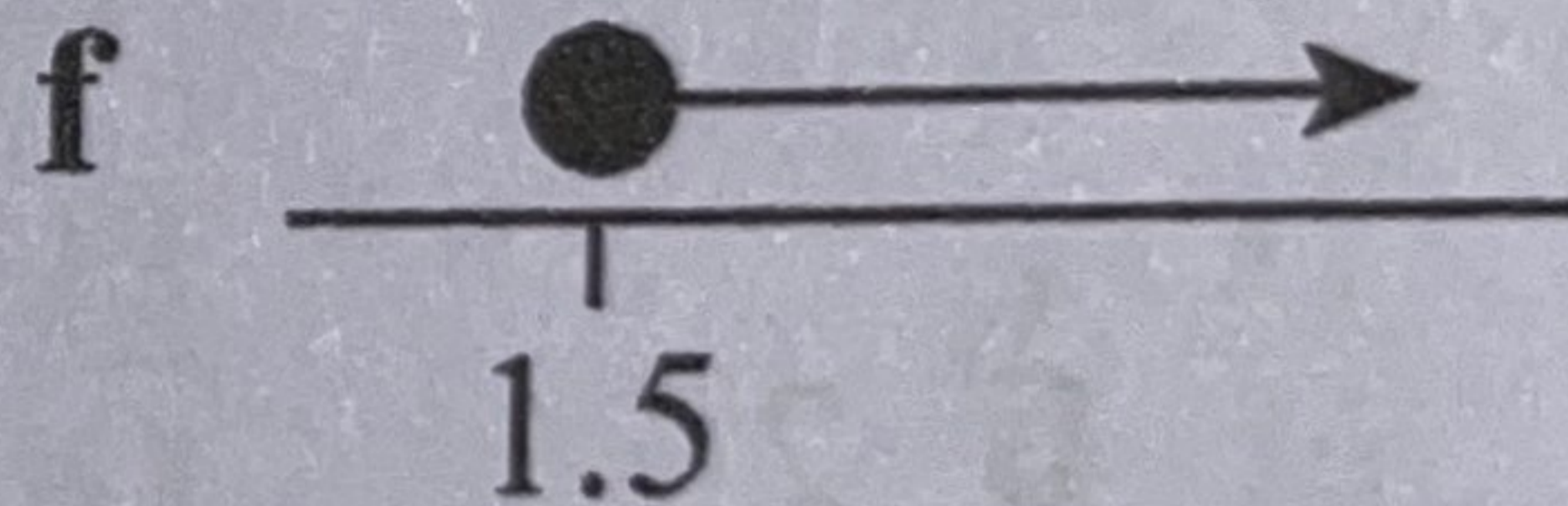
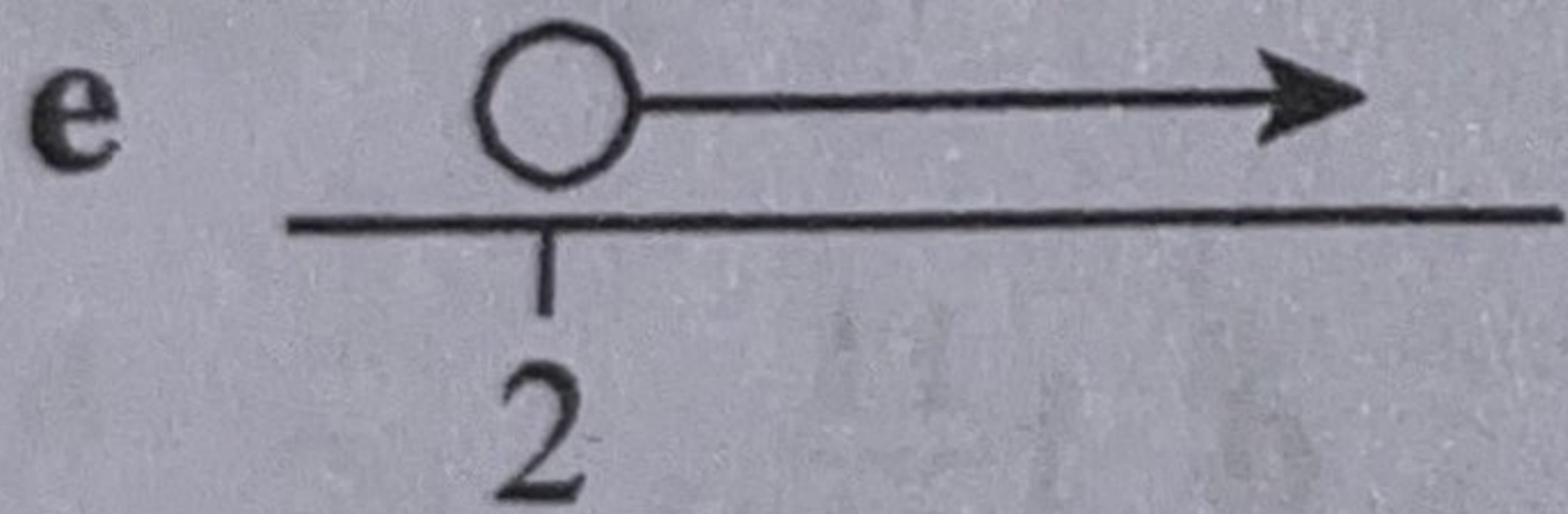
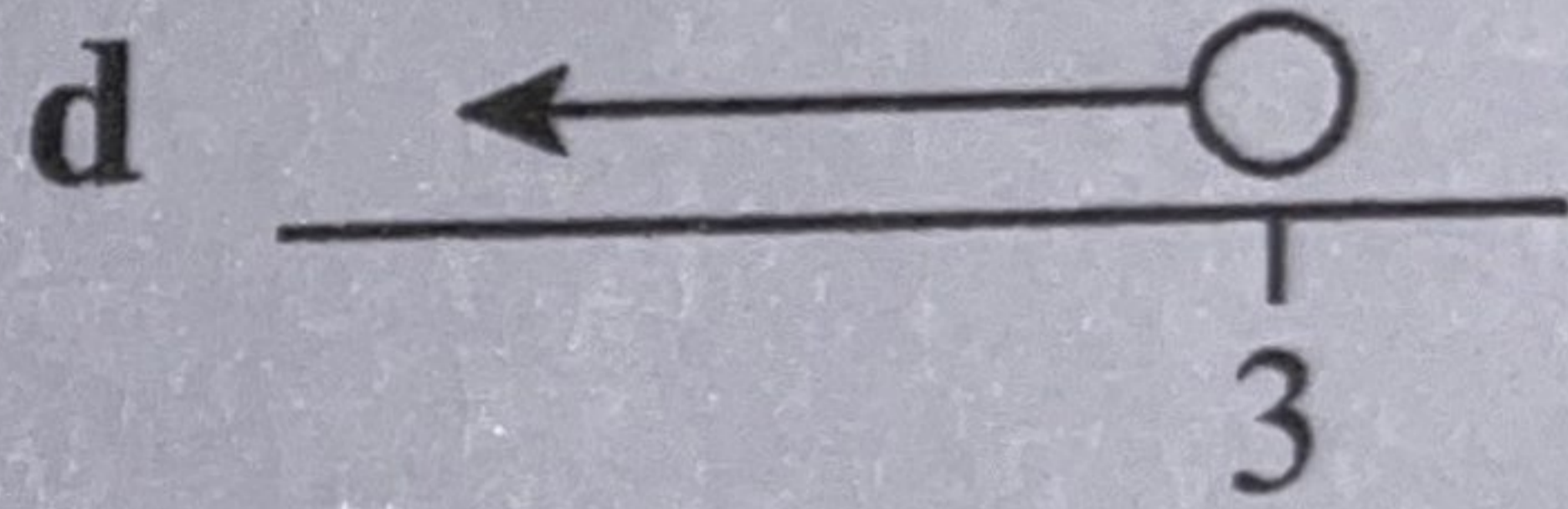
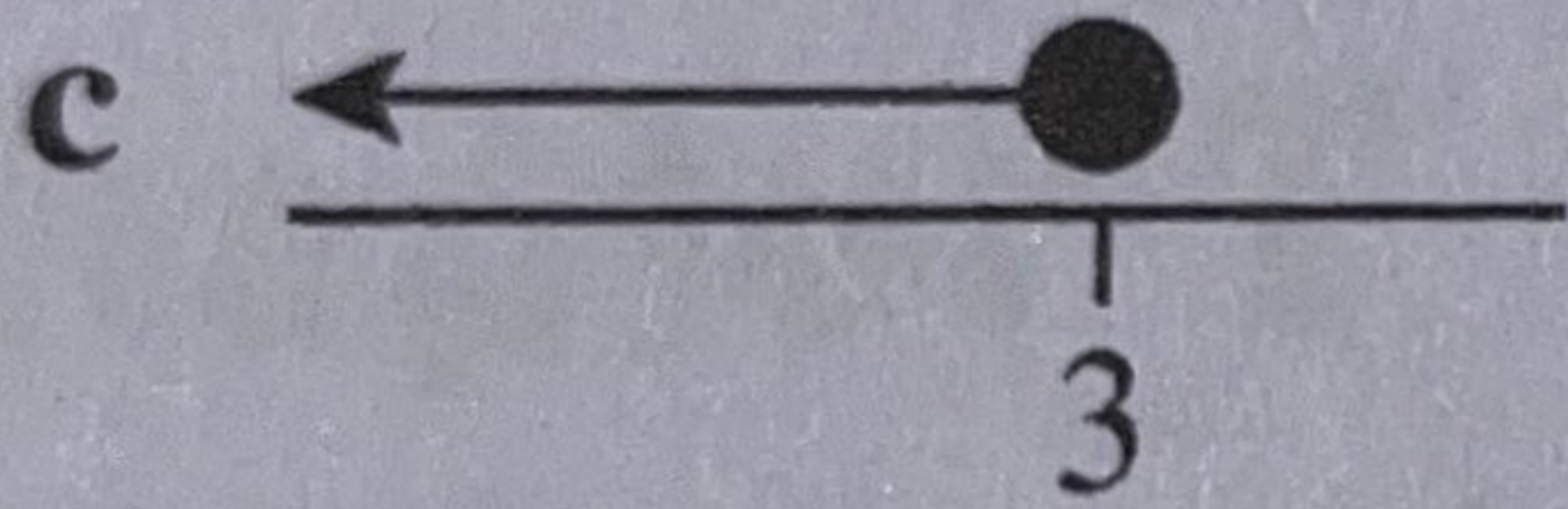
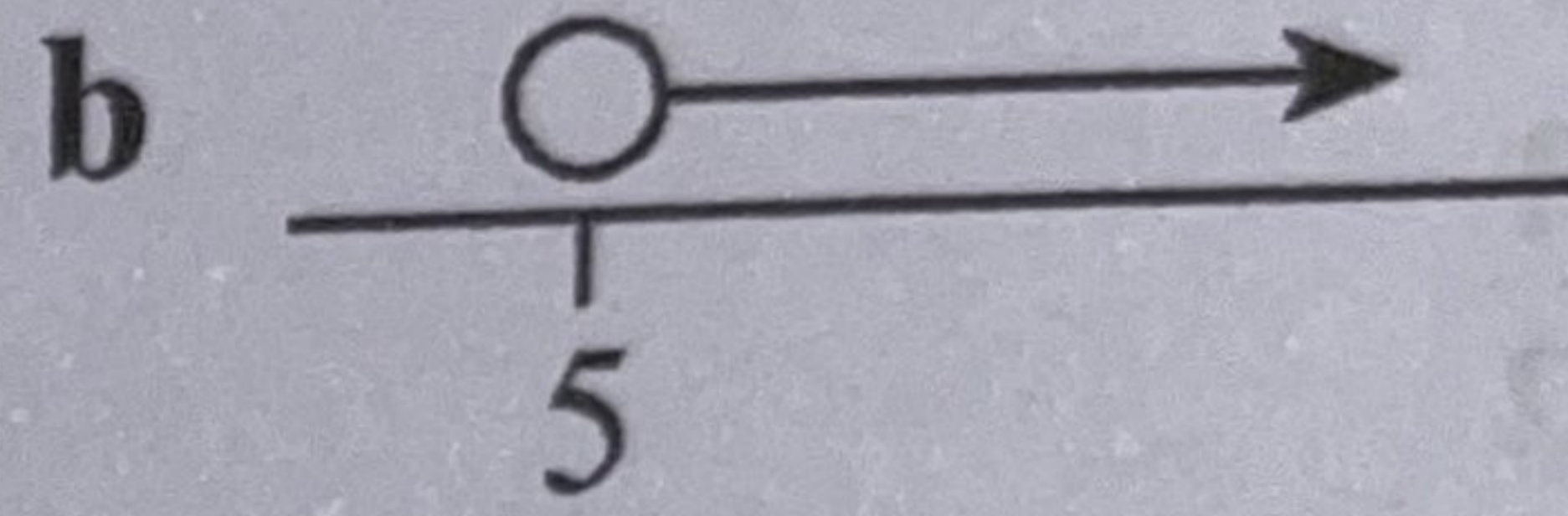
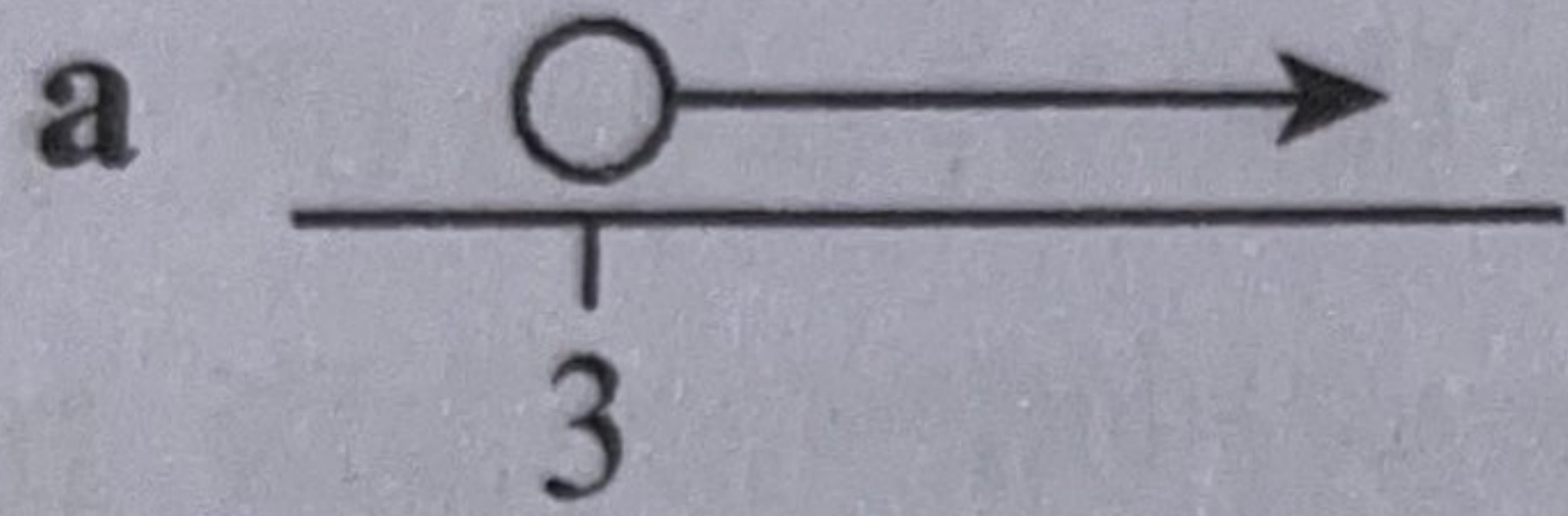
## Exercise 8C

- 1 **a**  $x > 3$       **b**  $x > 5$       **c**  $x \leq 3$       **d**  $x < 3$   
**e**  $x > 2$       **f**  $x \geq 1.5$       **g**  $x > 1.5$       **h**  $x < 3$
- 2 **a**  $x < 5$       **b**  $x \geq 9$       **c**  $x > 3$       **d**  $x > 7$   
**e**  $x \geq 3$       **f**  $x \leq 2$       **g**  $x > 8$
- 3  $3 \times 10 - 5 = 25$   
 $2 \times 10 + 7 = 27$   
 $25 \neq 27$
- 4 **a** She has forgotten to reverse the inequality sign when dividing by a negative number.  
**b**  $5 - 2 \times -4 = 5 + 8 = 13$  which is greater than 11
- 5 **a**  $x \leq 6$       **b**  $x > -6$
- 6  $20 + 0.5d \geq 55$
- 7 **a** yes      **b** yes      **c** yes      **d** no
- 8 **a**  $x < -2$       **b**  $x \geq 5$       **c**  $x \leq -4$       **d**  $x > -6$       **e**  $x \leq -3$
- 9 **a**  $x \leq 3$       **b**  $x > 5$       **c**  $x \geq 2$       **d**  $x \leq 6.5$       **e**  $x < 10$
- 10  $x < 7$

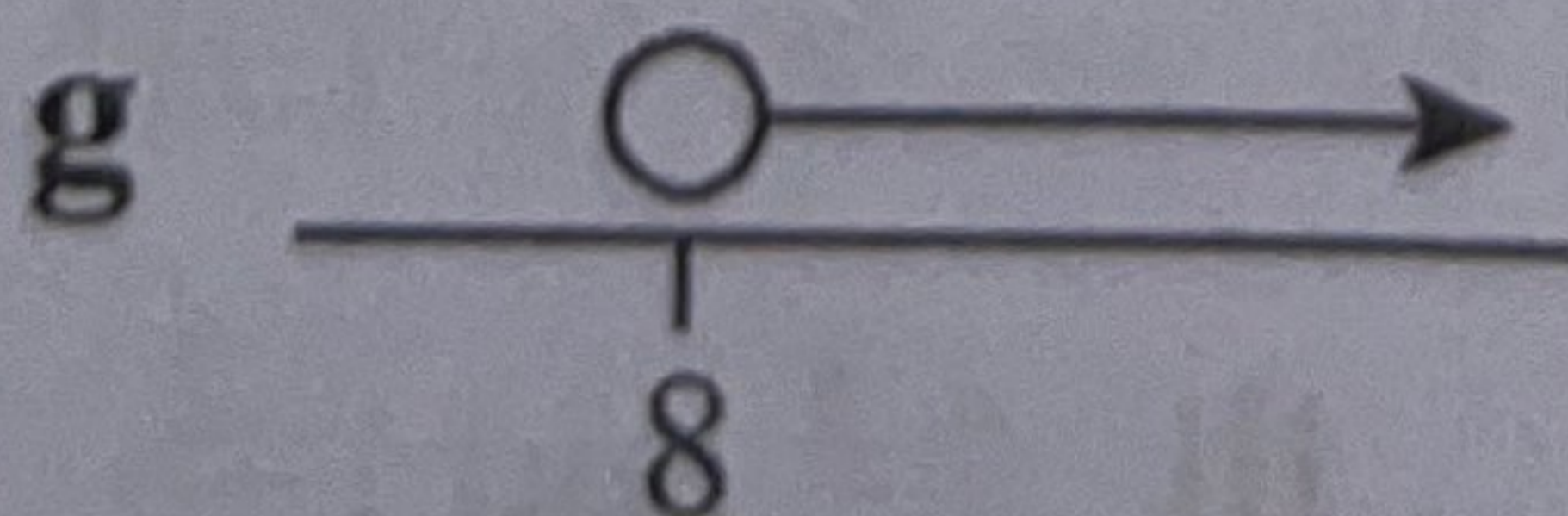
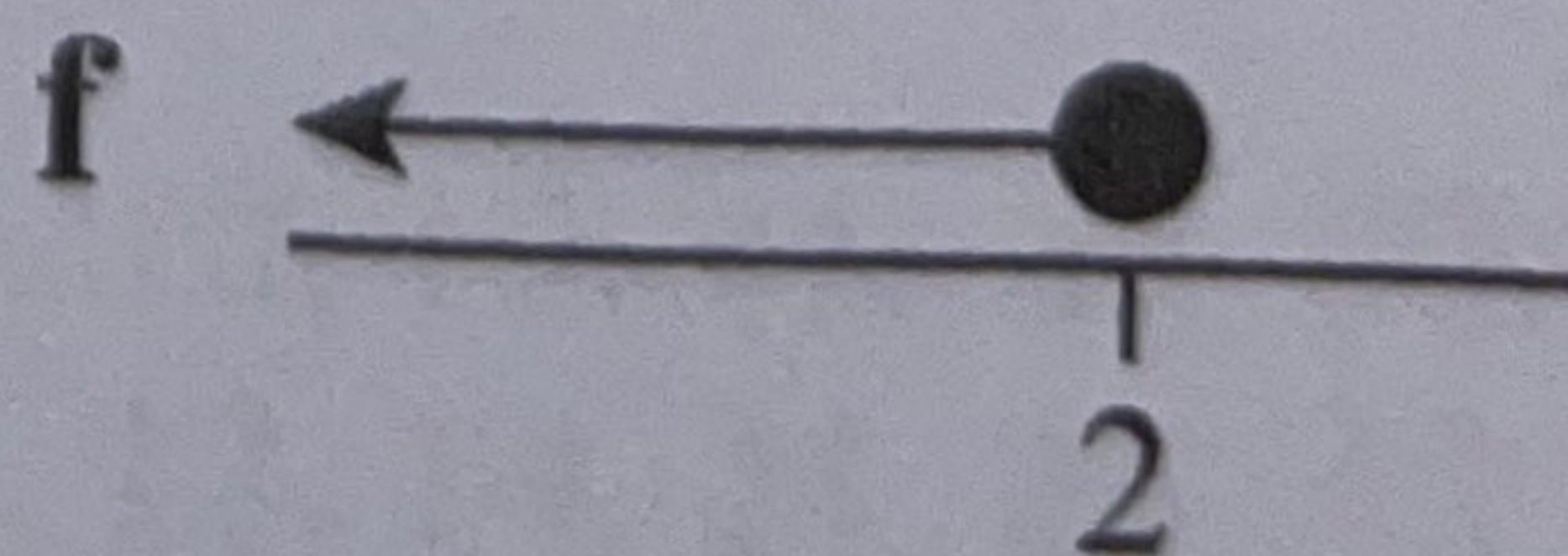
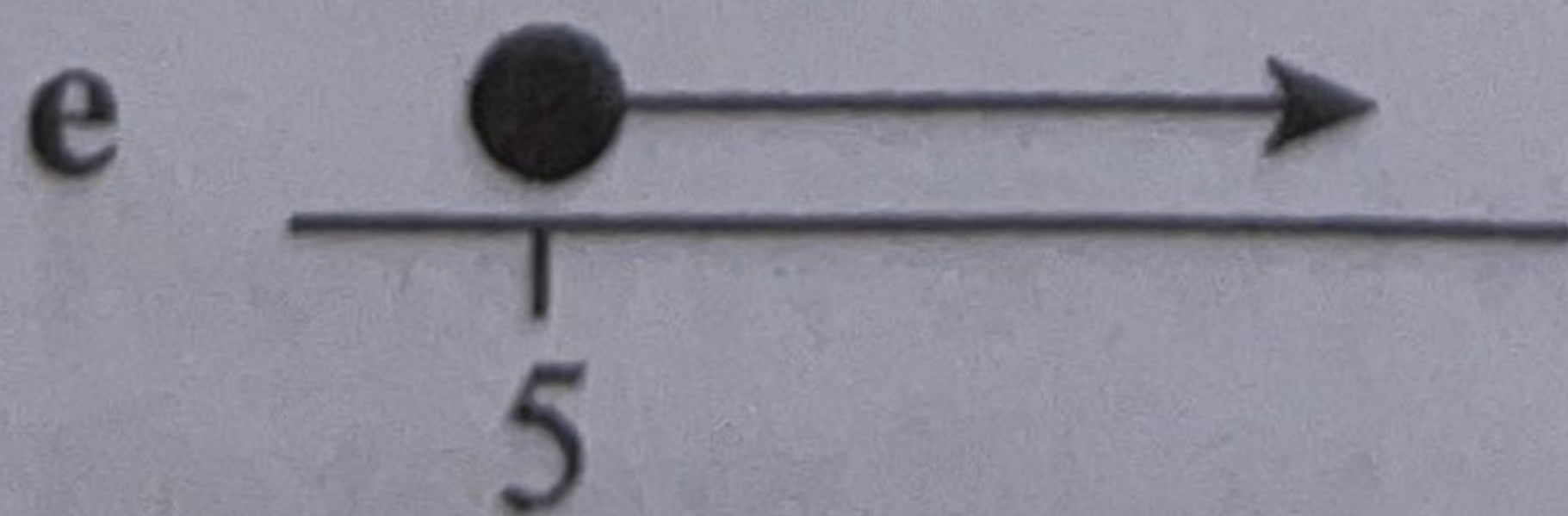
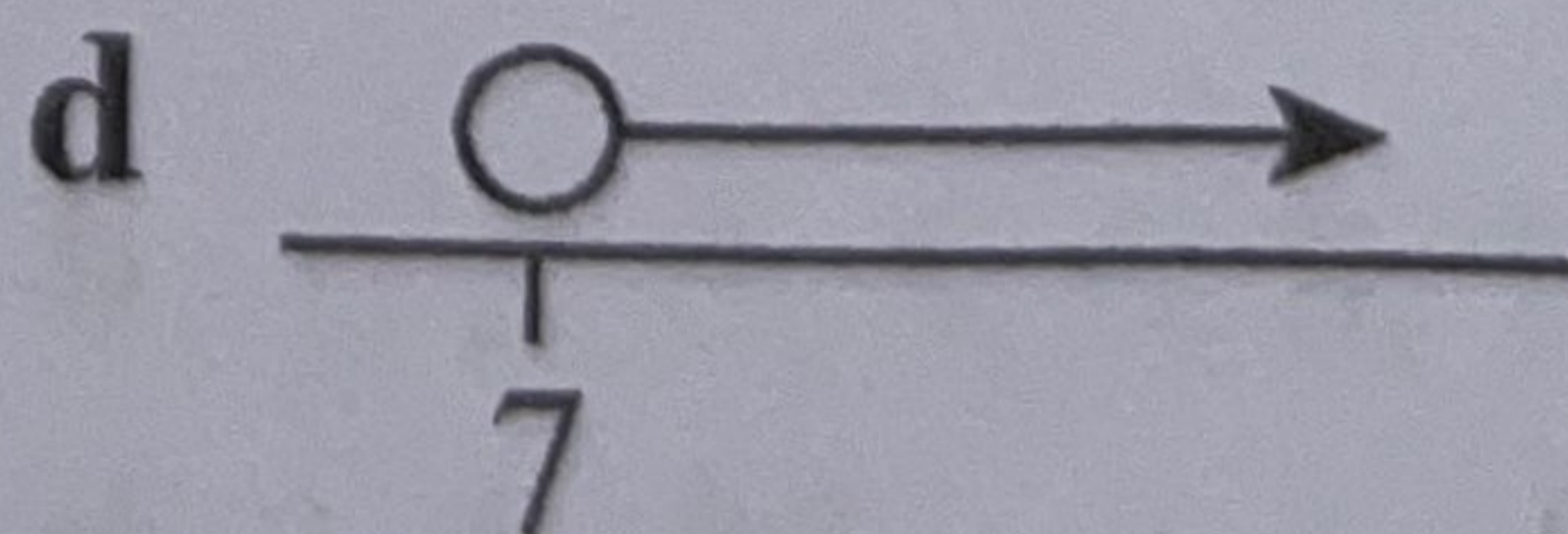
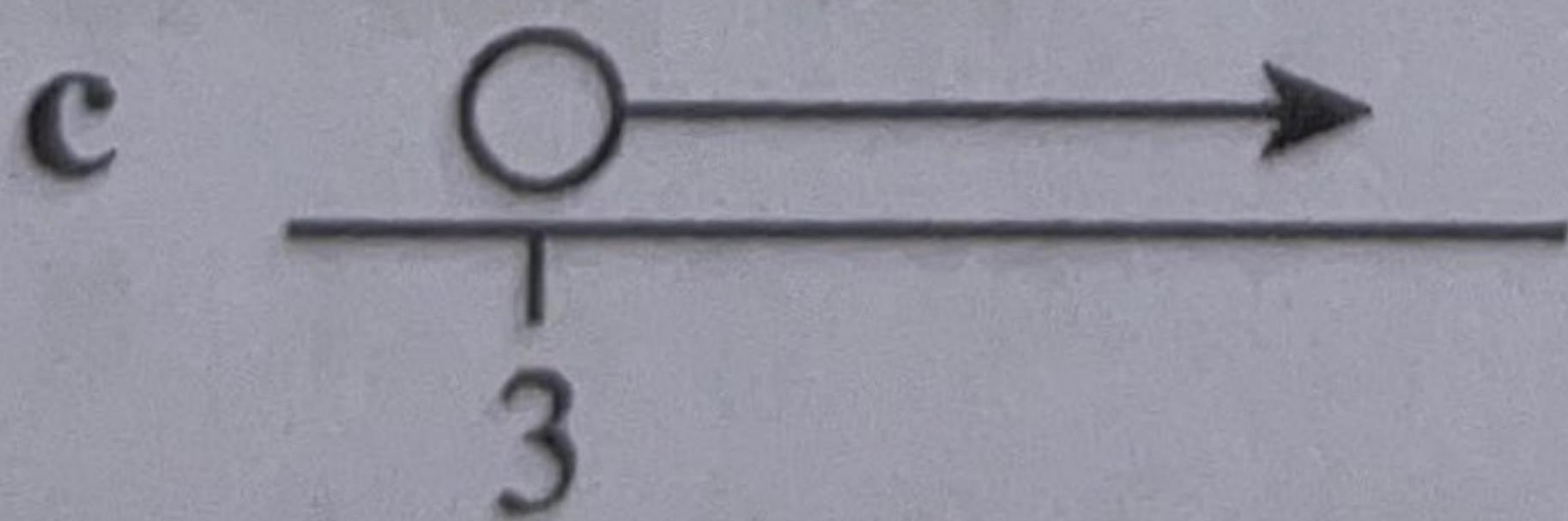
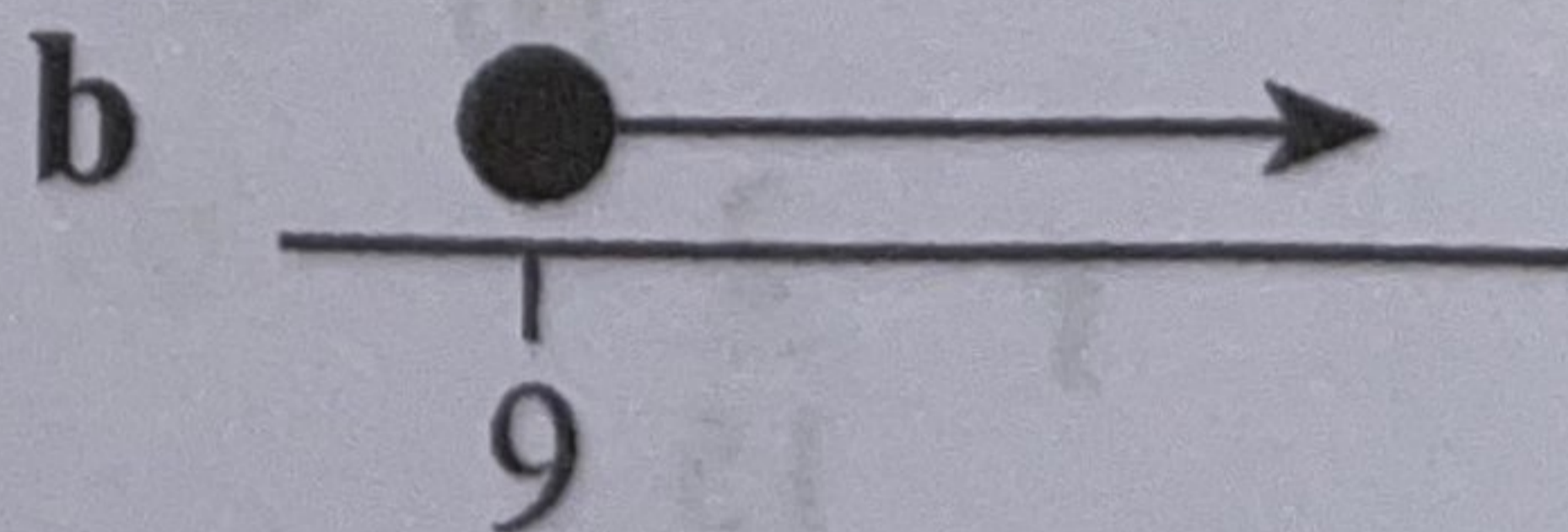
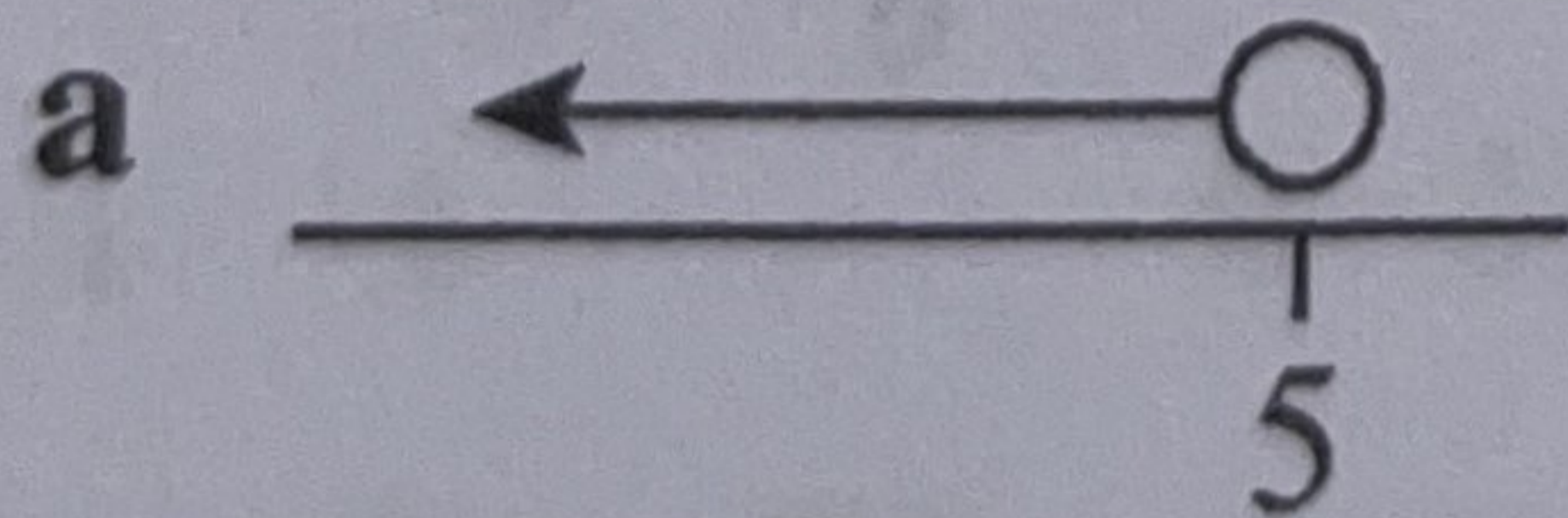


# Exercise 8D

1 For Question 1 of Exercise 8C:

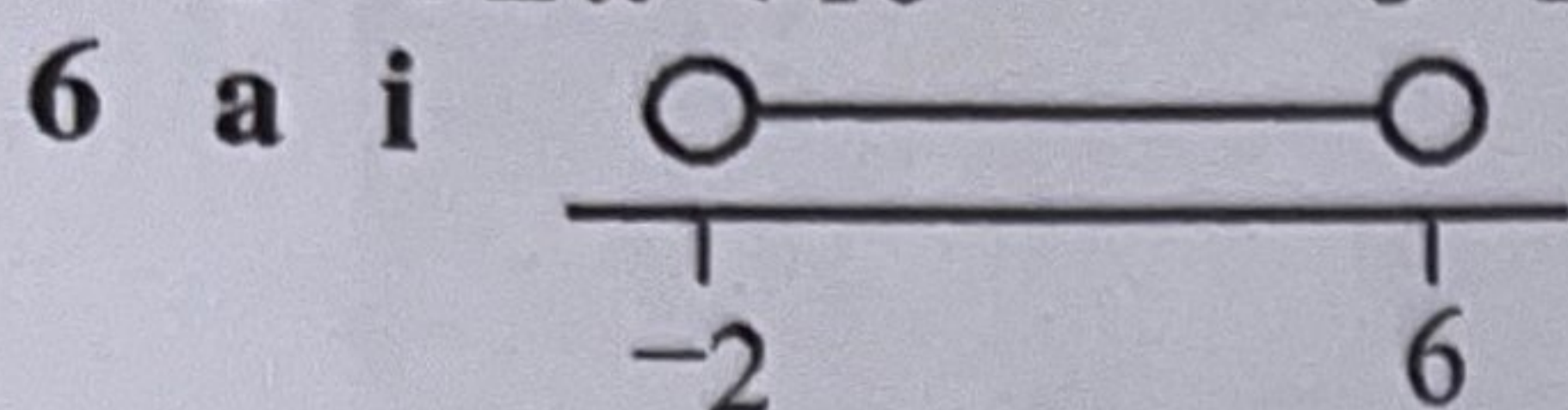


For Question 2 of Exercise 8C:

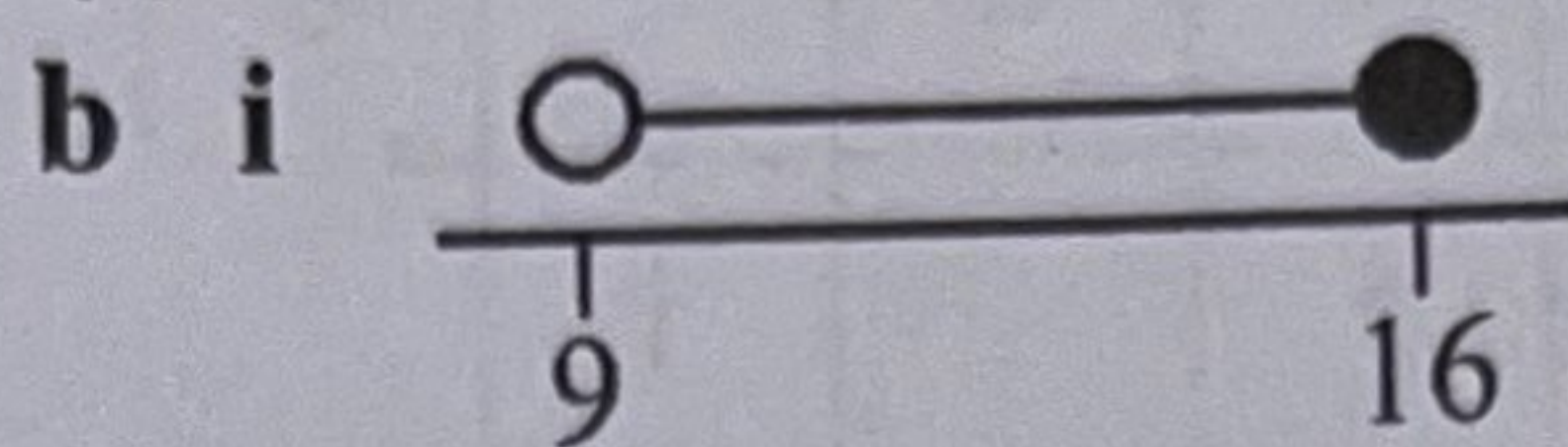




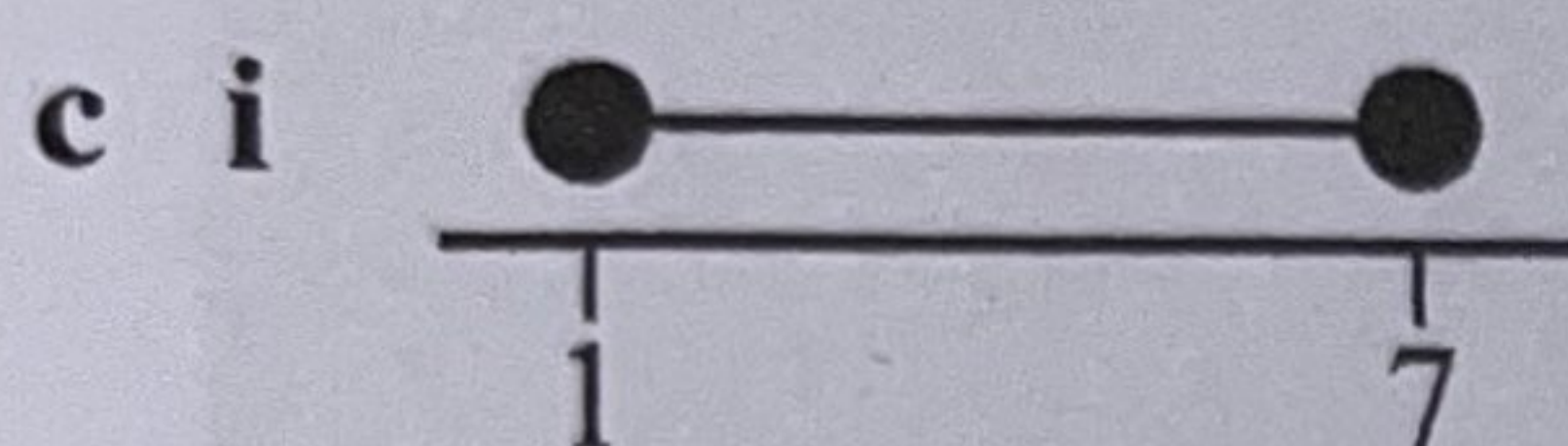
- 2 a 5, 6, 7, 8, 9      b 1, 2      c 6, 7, 8, 9  
 d 1, 2, 3      e 7, 8, 9      f 1, 2, 3, 4
- 3 a 16, 17, 18, 19, 20      b 18, 19, 20      c 1, 2, 3  
 d 1, 2, 3, 4, 5      e 1, 2, 3      f 15, 16, 17, 18, 19, 20
- 4 a  $x < 2$       b  $x \geq -2$       c  $-1 < x < 2$   
 d  $-5 \leq x < 10$       e  $0 \leq x \leq 30$
- 5 a  $-2 < x < 6$       b  $9 < x \leq 16$       c  $1 \leq x \leq 7$   
 d  $4 \leq x < 10$       e  $1 < x \leq 4$



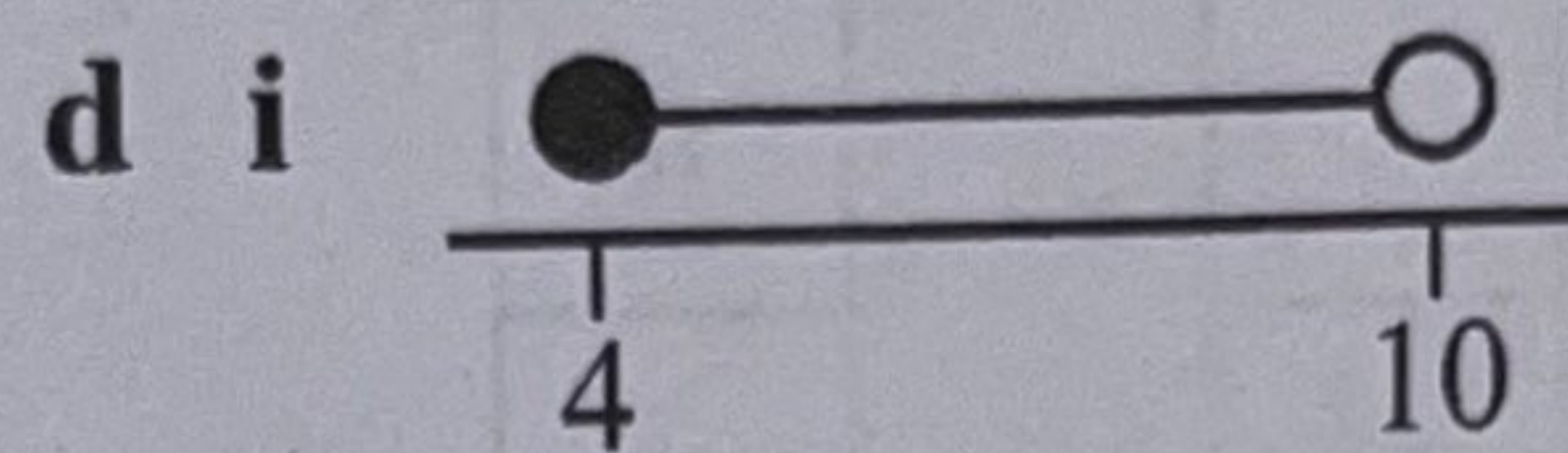
ii -1, 0, 1, 2, 3, 4, 5



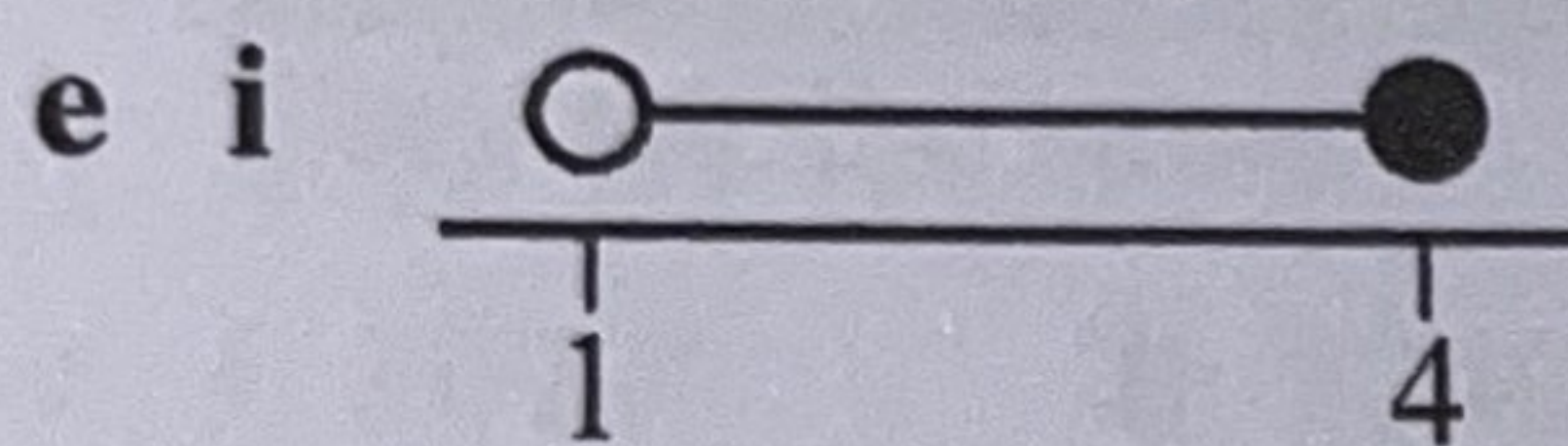
ii 10, 11, 12, 13, 14, 15, 16



ii 1, 2, 3, 4, 5, 6, 7



ii 4, 5, 6, 7, 8, 9



ii 2, 3, 4

7 a 24, 25      b 21, 22, 23      c 22, 23, 24, 25

8 a 5, 6, 7      b 6, 7

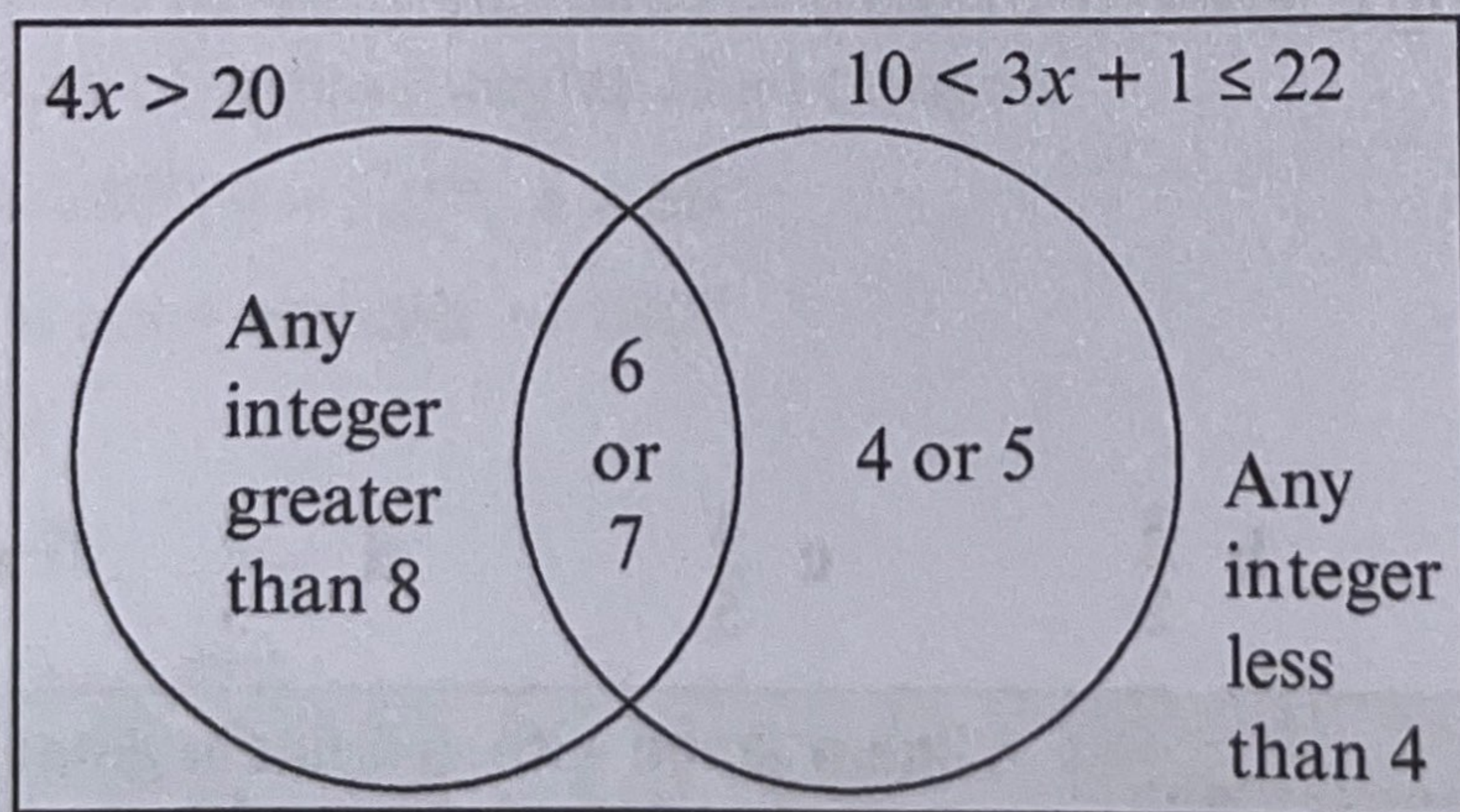
9 a 10, 11, 12      b 4, 5, 6

10 length must be greater than 8 cm

11 width must be greater than 15 cm

12 Amy is younger than 9

13 a



b Students' own answers

14 Students' own answers

15 a  $2 \leq x < 6$       b  $-1 \leq x < 3$       c  $-3 < x \leq 9$



## Exercise 8E

**1** Only graph B could be that of  $y = 3x - 4$

**2 a**  $y = 3x + 5$       **b**  $y = 2x - 3$

**c**  $y = 7 - x$       **d**  $y = -1 - 2x$

**3 a**  $y$ -intercept = 3, gradient = 2

**b**  $y$ -intercept = -2, gradient = 3

**c**  $y$ -intercept =  $\frac{1}{3}$ , gradient =  $\frac{4}{3}$

**d**  $y$ -intercept = 4, gradient = -2

**e**  $y$ -intercept =  $\frac{1}{3}$ , gradient =  $-\frac{1}{2}$

**f**  $y$ -intercept =  $-\frac{5}{2}$ , gradient = 2



**g**  $y$ -intercept = 14, gradient = -6

**h**  $y$ -intercept =  $\frac{8}{3}$ , gradient =  $-\frac{1}{6}$

**4** **b, c and e**

**5** **a and c, b and f**

**6** **a**  $y = 2x$

**b**  $y = 2x + 1$

**c**  $y = 2x + 5$

**d**  $y = 2x - 3$

**e**  $y = 2x + \frac{3}{2}$

**7** **a**  $y = 3x + 2$

**b**  $y = 5x + \frac{1}{2}$

**c**  $y = \frac{x}{2} + 2$

**d**  $y = -2x + 2$

**e**  $y = 2$

**8** **a**  $y = 3x + 5$

**b**  $y = 4x - 2$

**c**  $y = -x + 1$

**9** **a** 2                      **b**  $\frac{1}{2}$

**c** -2

**d** 2

**e**  $\frac{1}{2}$                       **f** -2

**10** **a** a and d, b and e, c and f

**b** c and f

**11** **a**  $y = 3x + 2$

**b**  $y = 2x + 4$

**c**  $y = 4x - 1$

**d**  $y = 4x - 3$