

# Integers

chapter

2

## Section 2.1 Negative numbers

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**Text & Tests** 1

Common Introductory Course  
for First-Year Maths

## Exercise 2.1

1. Use the number line to help you find the missing terms in these sequences.

(i)  $6, 4, 2, \square, \square, \square$

(ii)  $5, 3, 1, \square, \square, \square$

(iii)  $8, 4, 0, \square, \square, \square$

(iv)  $-3, -1, 1, \square, \square, \square$

(v)  $-4, -2, 0, \square, \square, \square$

(vi)  $8, 5, \square, \square, -4, \square$

## Exercise 2.1

**2.** Which is the higher temperature in each of the following?

(i)  $8^{\circ}\text{C}$  or  $10^{\circ}\text{C}$

(ii)  $-2^{\circ}\text{C}$  or  $5^{\circ}\text{C}$

(iii)  $0^{\circ}\text{C}$  or  $-5^{\circ}\text{C}$

(iv)  $-8^{\circ}\text{C}$  or  $-5^{\circ}\text{C}$

(v)  $-12^{\circ}\text{C}$  or  $-6^{\circ}\text{C}$

(vi)  $-8^{\circ}\text{C}$  or  $-14^{\circ}\text{C}$

## Exercise 2.1

**3.** What temperature is

(i)  $3^{\circ}\text{C}$  warmer than  $7^{\circ}\text{C}$

(iii)  $6^{\circ}\text{C}$  colder than  $3^{\circ}\text{C}$

(v)  $4^{\circ}\text{C}$  warmer than  $-10^{\circ}\text{C}$

(ii)  $5^{\circ}\text{C}$  colder than  $8^{\circ}\text{C}$

(iv)  $3^{\circ}\text{C}$  colder than  $-4^{\circ}\text{C}$

(vi)  $8^{\circ}\text{C}$  warmer than  $-8^{\circ}\text{C}$ ?

## Exercise 2.1

**4.** Write these numbers in order, starting with the smallest:

(i) 3, 6, -3, 0, -4, 1

(ii) 6, -5, -8, -2, 0, 4

(iii) -5, 3, 1, -2, -8, 9

(iv) -3, 5, -7, 0, -1, 3, -4

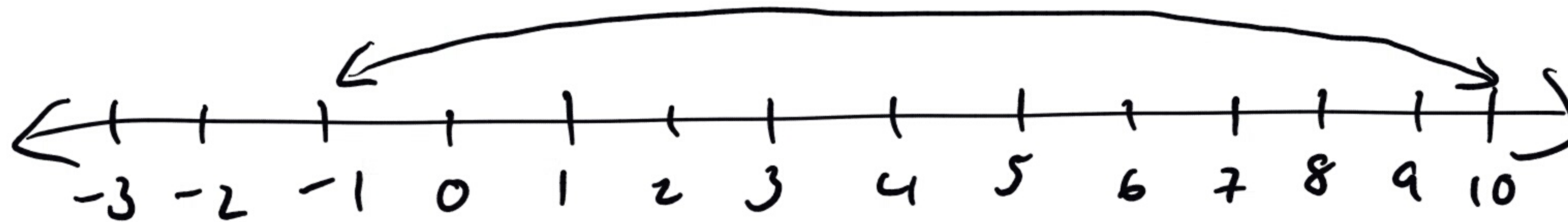
## Exercise 2.1

5. How many degrees difference is there between

(i)  $-1^{\circ}\text{C}$  and  $10^{\circ}\text{C}$  **11**

(ii)  $13^{\circ}\text{C}$  and  $-5^{\circ}\text{C}$  **18**

(iii)  $-3^{\circ}\text{C}$  and  $-14^{\circ}\text{C}$ ? **11**



## Exercise 2.1

6. The temperature in a freezer is  $-15^{\circ}\text{C}$  and the temperature in the room is  $17^{\circ}\text{C}$ .  
How many degrees difference is this?  $32^{\circ}\text{C}$

## Exercise 2.1

7. List the next four integers:

(i) greater than 2

3, 4, 5, 6

(ii) less than  $-1$

$-2, -3, -4, -5$

(iii) greater than  $-7$ .

$-6, -5, -4, -3$



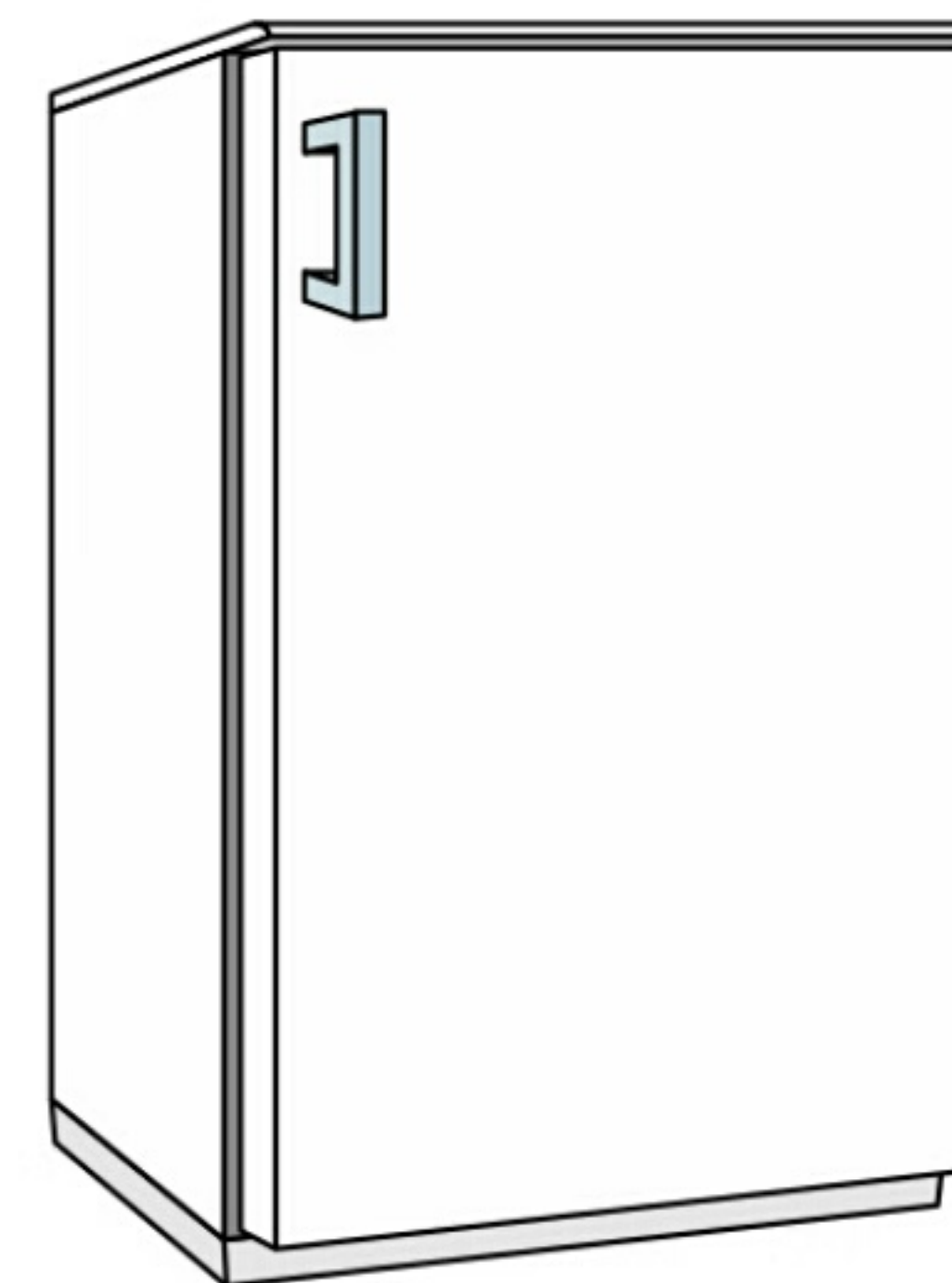
## Exercise 2.1

8. Say if each of the following is true or false:

- (i)  $9 > 0$   $\mathcal{T}$       (ii)  $-1 < 4$   $\mathcal{T}$       (iii)  $2 < -3$   $\mathcal{F}$       (iv)  $-4 > -1$   $\mathcal{F}$   
(v)  $0 > -4$   $\mathcal{T}$       (vi)  $-12 > 6$   $\mathcal{F}$       (vii)  $-1 < -7$   $\mathcal{F}$       (viii)  $6 > -7$   $\mathcal{T}$

## Exercise 2.1

9. The temperature of the fridge compartment of a fridge-freezer is set at 5°C.  
The freezer compartment is set at  $-18^{\circ}\text{C}$ .  
What is the difference between these temperature settings?  $23^{\circ}\text{C}$



## Exercise 2.1

10. The table gives the highest and lowest temperatures recorded in several cities during one year.

	New York	Paris	Rome	Moscow	Sydney
Highest temperature	27°C	32°C	34°C	28°C	34°C
Lowest temperature	-9°C	-6°C	8°C	-21°C	7°C

- (i) Which city recorded the lowest temperature? *Moscow*
- (ii) Which city recorded the biggest difference between its highest and lowest temperatures? *Moscow*
- (iii) Which city recorded the smallest difference between its highest and lowest temperatures? *Rome*

## Exercise 2.1

**11.** Copy and complete the following by putting the symbols  $>$  or  $<$  in the box.

(i)  $2 \boxed{<} 5$

(ii)  $2 \boxed{>} -3$

(iii)  $0 \boxed{<} 4$

(iv)  $0 \boxed{>} -2$

(v)  $-3 \boxed{<} 4$

(vi)  $-3 \boxed{>} -4$

(vii)  $-5 \boxed{<} -1$

(viii)  $-3 \boxed{<} 0$

## Adding Subtracting integers Rules

When there is no sign on number  
it is positive i.e. 7, means +7

① When the signs are the same

You ADD and KEEP the SAME SIGN

$$\text{Eg 1) } 3 + 7 = 10$$

$$\text{Eg 2) } +4 + 5 + 1 = 10$$

$$\text{Eg 3) } -1 - 2 = -3$$

$$\text{Eg 4) } -10 - 9 - 2 = -21$$

② When the signs are different

You SUBTRACT and KEEP the SIGN  
of the BIGGER NUMBER

$$\text{Eg 1) } -8 + 6 = -2$$

$$\text{Eg 2) } +8 - 6 = +2$$

HW

Pg 39

Q3+4

## Exercise 2.1

1. (i)  $0, -2, -4$  (ii)  $-1, -3, -5$   
(iii)  $-4, -8, -12$  (iv)  $3, 5, 7$   
(v)  $2, 4, 6$  (vi)  $2, -1, -7$
2. (i)  $10^{\circ}\text{C}$  (ii)  $5^{\circ}\text{C}$  (iii)  $0^{\circ}\text{C}$   
(iv)  $-5^{\circ}\text{C}$  (v)  $-6^{\circ}\text{C}$  (vi)  $-8^{\circ}\text{C}$
3. (i)  $10^{\circ}\text{C}$  (ii)  $3^{\circ}\text{C}$  (iii)  $-3^{\circ}\text{C}$   
(iv)  $-7^{\circ}\text{C}$  (v)  $-6^{\circ}\text{C}$  (vi)  $0^{\circ}\text{C}$
4. (i)  $-4, -3, 0, 1, 3, 6$   
(ii)  $-8, -5, -2, 0, 4, 6$   
(iii)  $-8, -5, -2, 1, 3, 9$   
(iv)  $-7, -4, -3, -1, 0, 3, 5$
5. (i)  $11^{\circ}\text{C}$  (ii)  $18^{\circ}\text{C}$  (iii)  $11^{\circ}\text{C}$
6.  $32^{\circ}\text{C}$
7. (i)  $3, 4, 5, 6$   
(ii)  $-2, -3, -4, -5$   
(iii)  $-6, -5, -4, -3$
8. (i) T (ii) T (iii) F (iv) F  
(v) T (vi) F (vii) F (viii) T
9.  $23^{\circ}\text{C}$
10. (i) Moscow (ii) Moscow (iii) Rome
11. (i)  $<$  (ii)  $>$  (iii)  $<$  (iv)  $>$   
(v)  $<$  (vi)  $>$  (vii)  $<$  (viii)  $<$

# Answers