

KS3 – Place Value & Number Basics

Section A – Place Value

Q1 (3 marks)

What is the value of the digit 6 in each number?

a) 3,642

b) 68,215

c) 467,901

Q2 (3 marks)

What is the value of the digit 5 in each number?

a) 7.52

b) 3.058

c) 0.005

Q3 (4 marks)

State the digit in the:

a) hundreds place in 27,483

b) ten-thousands place in 631,205

c) tenths place in 9.724

d) hundredths place in 4.806

Q4 (3 marks)

Write each number in figures.

- a) Six thousand, four hundred and twenty-three
- b) Fifty-two thousand and eight
- c) Three hundred and seven thousand, two hundred and fifteen

Q5 (3 marks)

Write each number in expanded form.

- a) 4,583
- b) 60,307
- c) 8.462

Q6 (3 marks)

Write each as an ordinary number.

- a) $7,000 + 400 + 30 + 2$
- b) $80,000 + 5,000 + 600 + 9$
- c) $6 + 0.3 + 0.07 + 0.004$

Q7 (4 marks)

Complete each calculation.

a) 4.7×10

b) 0.63×100

c) $580 \div 10$

d) $7.2 \div 100$

Challenge

Q8 (2 marks)

A number contains:

- 5 hundred-thousands
- 3 ten-thousands
- 8 hundreds
- 4 tens
- 6 ones
- 7 tenths
- 2 hundredths

Write the number.

Q9 (2 marks)

The digit 4 has a value of 400 in one number and 0.04 in another number.

How many times greater is the value of the first 4?

Section B – Ordering Numbers

Q10 (3 marks)

Insert $<$, $>$ or $=$.

a) $58 \text{ ___ } 85$

b) $406 \text{ ___ } 399$

c) $2,071 \text{ ___ } 2,071$

Q11 (4 marks)

Insert $<$, $>$ or $=$.

a) $5.2 \text{ ___ } 5.7$

b) $4.80 \text{ ___ } 4.8$

c) $6.09 \text{ ___ } 6.9$

d) $0.705 \text{ ___ } 0.75$

Q12 (1 mark)

Put these numbers in ascending order.

17, 31, 8, 24, 13

Q13 (1 mark)

Put these numbers in descending order.

450, 405, 540, 504, 45

Q14 (2 marks) Put these numbers in ascending order.

3.5, 3.05, 3.505, 3.55, 3.15

Q15 (2 marks)

Put these numbers in descending order.

0.8, 0.08, 0.808, 0.88, 0.818

Challenge

Q16 (3 marks)

Use the digits 2, 5, 7 and 9 exactly once to make:

- a) the largest possible 4-digit number
- b) the smallest possible 4-digit number
- c) the largest possible number between 5,000 and 6,000

Q17 (2 marks)

A number has exactly two decimal places.

It is greater than 4.5 but less than 4.6.

Its hundredths digit is twice its tenths digit.

Find the number.

Section C – Negative Numbers

Q18 (3 marks)

Work out.

a) $6 + (-2)$

b) $-3 + 8$

c) $-5 + 9$

Q19 (3 marks)

Work out.

a) $-4 + (-3)$

b) $-6 + (-5)$

c) $-9 + (-7)$

Q20 (3 marks)

Work out.

a) $5 - 9$

b) $-3 - 6$

c) $7 - 12$

Q21 (3 marks)

Work out.

a) $8 - (-3)$

b) $-4 - (-7)$

c) $-9 - (-5)$

Q22 (3 marks)

Work out.

a) $(-4) \times 6$

b) $7 \times (-5)$

c) $(-8) \times (-3)$

Q23 (3 marks)

Work out.

a) $-30 \div 6$

b) $42 \div (-7)$

c) $-56 \div (-8)$

Q24 (3 marks)

Work out.

a) $-4 + 7 - 8$

b) $9 - 14 + 3$

c) $-7 + 4 - 6$

Q25 (1 mark)

The temperature is -6°C in the morning.

It rises by 11°C during the day.

What is the new temperature?

Q26 (2 marks)

A diver is 14 m below sea level.

The diver rises 6 m and then descends 9 m.

What is the diver's final position relative to sea level?

Challenge

Q27 (6 marks)

Work out.

a) $6 + 4 \times (-3)$

b) $-5 \times (-4) - 13$

c) $24 \div (-6) - (-7)$

Q28 (3 marks)

Complete the missing numbers.

a) $-8 + \underline{\hspace{1cm}} = 5$

b) $\underline{\hspace{1cm}} - 7 = -12$

c) $-6 \times \underline{\hspace{1cm}} = 42$

Section D – Number Lines

29 (2 marks)

Complete each sequence.

a) -6, -4, -2, __, __

b) 8, 5, 2, __, __

Q30 (1 mark)

A point starts at -5 on a number line and moves 8 units to the right.

Where does it finish?

Q31 (1 mark)

A point starts at 4 and moves 10 units to the left.

Where does it finish?

Q32 (3 marks)

Find the number exactly halfway between:

a) 4 and 12

b) -6 and 4

c) -11 and 5

Q33 (2 marks)

Points A and B lie on a number line.

A is at -8 and B is at 6 .

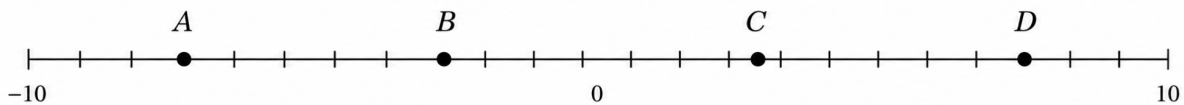
a) How far apart are A and B?

b) Find the number exactly halfway between A and B.

Challenge

Q34 (4 marks)

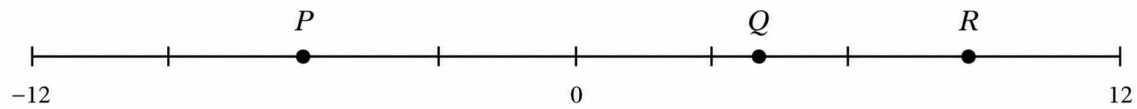
The number line below goes from -10 to 10 . Each interval represents 1 .



Write down the values represented by A, B, C and D.

Q35 (3 marks)

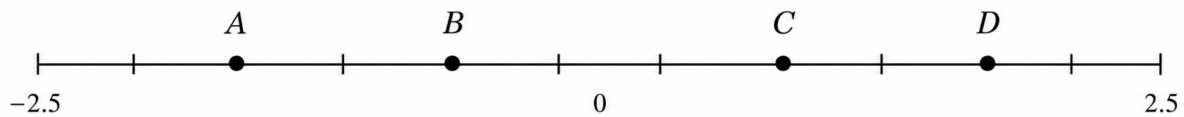
The number line below has equally spaced intervals.



Find the values of P, Q and R.

Q36 (4 marks)

The number line below has equally spaced intervals.



Find the values represented by A, B, C and D.