Steady Steps Maths

FREE UNIT TEST · TOPIC 6

FREE SAMPLE · UNIT TEST A

# Integers & the Coordinate Plane

Unit Test A · 40 marks · about 40 minutes

GRADE 6




Common Core 6.NS.C.5–8

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Name _____ Date _____

UNIT TEST A

# Integers & the Coordinate Plane

40 marks · about 40 minutes · Common Core 6.NS.C.5–8

**Name** _____ **Date** _____

## Instructions

- Answer **every** question in the space given.
- Show your working: in Sections B and C you get marks for your method, even if the final answer is wrong.
- The number in brackets, like [2], shows how many marks a question is worth.
- You have about 40 minutes. A calculator is **not** needed.
- Check your answers if you finish early.

## Your score

| Section | Questions | Marks | Your score |
|---|---|---|---|
| A · Quick questions | 1–10 | 10 | |
| B · Show your working | 11–16 | 17 | |
| C · Problem solving | 17–18 | 13 | |
| **Total** | | **40** | |

Percentage: _____ %  85%+ excellent · 65–84% good · 45–64% keep practising · below 45% revise the packs first


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## SECTION A Quick questions

1 mark each · write your answer in the box

1. Write an integer for “14 m below sea level”. [1]

Answer

2. What is the opposite of −23? [1]

Answer

3. Work out $|-22|$. [1]

Answer

4. Write < or >: −8 ○ −9 [1]

Answer

5. Write <, > or =: $|-15|$ ○ $|-10|$ [1]

Answer

6. In which quadrant is the point (2, 7)? [1]

Answer

7. Reflect (6, 3) in the y-axis. Write the new point. [1]

Answer

8. How far apart are (−4, −3) and (2, −3)? [1]

Answer

9. Which integer is 9 units to the left of 3 on a number line? [1]

Answer

10. Write all the integers between −7 and −3. [1]

Answer

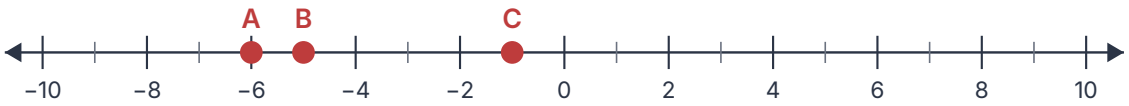

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## SECTION B Show your working

Marks are given for your method

**11** Write the number shown by each letter on the number line. [3]




Answer

**12** Write these numbers in order from smallest to largest: −2.5 −4 −6 0.5 −7 [2]

Answer

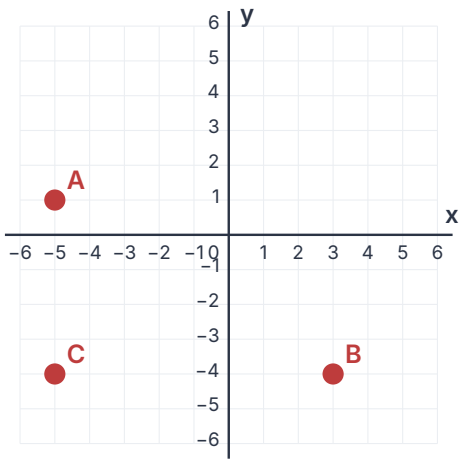
**13** Zaid's account balance is −8. Huda's is −23. Who owes more money? Explain using absolute value. [3]

Answer


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**14** Write the coordinates of A, B and C. [3]




Answer _____

**15** At midnight the temperature was −8 °C. By noon it had risen 8 degrees. What was the temperature at noon? Use a number line to help. [3]

Answer _____

**16** A point is at (3, 3). It is reflected in the x-axis, and then in the y-axis. Where does it end up? Which quadrant is it in? [3]

Answer _____


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## SECTION C Problem solving

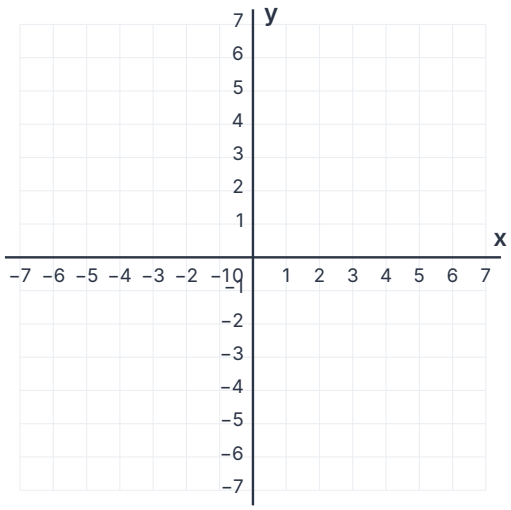
Longer questions with several steps

**17** A rectangle has vertices (−6, 3), (6, 3) and (6, −4). [7]

(a) Write the fourth vertex.

(b) Find the length and width.

(c) Find the perimeter and the area.




Answer

**18** A diver is at −30 m. A submarine is at −60 m. A seagull is flying at 52 m. [6]

(a) Which is deepest?

(b) How far is the diver from the submarine?

(c) Which is further from sea level, the seagull or the diver? Explain.

Answer


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# Mark scheme

For parents · give the marks shown; method marks can be given even if the final answer is wrong

**Tip:** Give method marks generously when the working shows the right idea. If a mistake early on is carried through correctly, give the later marks.

| Q | Answer | Marks | How to award the marks |
|---|---|---|---|
| **1** | −14 | 1 | |
| **2** | 23 | 1 | |
| **3** | 22 | 1 | |
| **4** | > | 1 | |
| **5** | > | 1 | |
| **6** | I | 1 | |
| **7** | (−6, 3) | 1 | |
| **8** | 6 units | 1 | |
| **9** | −6 | 1 | |
| **10** | −6, −5, −4 | 1 | Not including the end numbers. |
| **11** | A = −6, B = −5, C = −1 | 3 | 1 mark for each letter. |
| **12** | −7, −6, −4, −2.5, 0.5 | 2 | 2 marks for all correct; 1 mark for one number out of place. |
| **13** | Huda: $\|-23\| = 23 > 8$ | 3 | 1 mark for each absolute value; 1 mark for the correct person. |
| **14** | A(−5, 1), B(3, −4), C(−5, −4) | 3 | 1 mark for each point (x first). |
| **15** | 0 °C | 3 | 1 mark for a correct start point; 1 mark for counting on; 1 mark for the answer. |
| **16** | (−3, −3), Quadrant III | 3 | 1 mark for each reflection; 1 mark for the quadrant. |
| **17** | (a) (−6, −4) (b) 12 and 7 units (c) perimeter 38 units, area 84 square units | 7 | (a) 1 mark. (b) 2 marks: 1 for each side (absolute values or counting). (c) 4 marks: 2 for the perimeter, 2 for the area (1 each for method). |
| **18** | (a) the submarine (b) 30 m (c) the seagull ($\|52\| = 52$, $\|-30\| = 30$) | 6 | (a) 1 mark. (b) 2 marks: 1 for method. (c) 3 marks: 1 for each absolute value, 1 for the conclusion. |


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# What to revise

Circle the questions your child lost marks on, then go back to the matching part of the pack

| Questions | Skill | Revise in | ✓ / × |
|---|---|---|---|
| 1, 15 | Integers in real life | Pack 1 · Positive & Negative Numbers, Part 1 | |
| 2 | Opposites | Pack 1 · Positive & Negative Numbers, Part 2 | |
| 3 | Absolute value | Pack 2 · Absolute Value, Part 1 | |
| 4 | Comparing negatives | Pack 3 · Comparing & Ordering, Part 1 | |
| 5 | Comparing absolute values | Pack 2 · Absolute Value, Part 3 | |
| 6 | Quadrants | Pack 4 · The Coordinate Plane, Part 2 | |
| 7, 16 | Reflections | Pack 4 · The Coordinate Plane, Part 3 | |
| 8 | Distance between points | Pack 4 · The Coordinate Plane, Part 5 | |
| 9, 11 | Number lines | Pack 1 · Positive & Negative Numbers, Part 3 | |
| 10, 12 | Ordering integers | Pack 3 · Comparing & Ordering, Part 2 | |
| 13 | Absolute value in real life | Pack 2 · Absolute Value, Part 2 | |
| 14 | Reading coordinates | Pack 4 · The Coordinate Plane, Part 1 | |
| 17 | Shapes on the coordinate plane | Pack 4 · The Coordinate Plane, Part 4 and 5 | |
| 18 | Absolute value and distance | Pack 2 · Absolute Value, Part 2 and Pack 3 · Comparing & Ordering, Part 3 | |


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