1.7 Negative Numbers: Test Pack

Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Write these numbers in order, starting with the smallest: -2, 5, -7, 0, 3

(2)

2 A small research submarine is at -80 m below sea level. It descends 30 m further and then rises 50 m. What is its final depth relative to sea level?

(3)

3 State which is larger: -4 or -9

(1)

4 Solve the equation: x - (-3) = -1. Find x.

(2)

5 Work out (4 - (-2)) x 6.

(2)

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6 On a number line mark the point that is 3 units to the right of -6. Write its value.

(1)

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7 Work out

(a) (-5) x 2

(b) -18 ÷ (-9)

(2)

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8 At night in Helsinki the temperature was -3°C. By midday it had risen to 1°C. Work out the rise in temperature.

(2)

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9 At night in Oslo the temperature was -10°C. By midday it had risen to 10°C. Work out the rise in temperature.

(2)

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10 Find the missing number: -2 + ? = -3

(2)

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11 Work out
(a) (-12) x (-8)
(b) -42 ÷ (-7)

(2)

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12 Write these numbers in order, largest first.
-11, 2, 6, 9, 5, -1

(2)

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13 Work out
(a) 6 x 5
(b) 40 ÷ 4

(2)

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14 Work out (5 - (-3)) x 3.

(2)

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15 Write these numbers in order, starting with the smallest: -6, 4, -9, 1, -2

(1)

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16 Find x. x + (-8) = -3

(2)

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17 Solve: x - (-5) = 2

(2)

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18 Work out: (-2) x 5 - (-9)

(2)

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19 A weather balloon is released from ground level (0 m). It rises 850 m, then a storm causes it to fall 1200 m from its highest point, before it rises again by 300 m. Find its final height relative to the ground, and state whether it is above or below ground level. Show your working.

(4)

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20 Tom thinks of a number. He subtracts 12 from it, and the result is -19. Form an equation using n for Tom's number, solve it to find n, and check your answer by substitution.

(4)

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21 State which is larger: -12 or -5

(1)

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22 A point is marked 5 units to the left of -3 on a number line. What is the value of this point?

(1)

---

23 Calculate: -7 x 4

(1)

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Mark scheme · 1.7 Negative Numbers: Test Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

Question 1

convert to clear numeric order or compare negatives correctly	M1
correct order: -7, -2, 0, 3, 5 cao	A1

Answer: **-7, -2, 0, 3, 5**

Question 2

shows descent: -80 - 30 = -110 or equivalent	M1
shows rise: -110 + 50 or equivalent	M1
-60 m cao	A1

Answer: **-60 m**

Question 3

correct answer stated: -4 oe	B1

Answer: **-4**

Question 4

adds 3 to both sides or shows equivalent method	M1
x = -4 cao	A1

Answer: **-4**

Question 5

4 - (-2) = 6	M1
36 cao	A1

Answer: **36**

Question 6

value -3 cao	B1

Answer: **-3**

Question 7

(a) -10	B1
(b) 2	B1

Answer: **(a) -10, (b) 2**

Question 8

1 - (-3) or 3 + 1 seen	M1
4°C cao	A1

Answer: **4°C**

Question 9

10 - (-10) or 10 + 10 seen	M1
20°C cao	A1

Answer: **20°C**

Question 10

uses the inverse operation or tries a value and checks	M1
-1 cao	A1

Answer: **-1**

Question 11

(a) 96	B1
(b) 6	B1

Answer: **(a) 96, (b) 6**

Question 12

at least four numbers in the correct relative order	M1
9, 6, 5, 2, -1, -11 cao	A1

Answer: **9, 6, 5, 2, -1, -11**

Question 13

(a) 30	B1
(b) 10	B1

Answer: **(a) 30, (b) 10**

Question 14

5 - (-3) = 8	M1
24 cao	A1

Answer: **24**

Question 15

-9, -6, -2, 1, 4 cao	B1

Answer: **-9, -6, -2, 1, 4**

Question 16

correct rearrangement, x = -3 - (-8)	M1
x = 5 cao	A1

Answer: **x = 5**

Question 17

correctly rewrites x + 5 = 2	M1
x = -3 cao	A1

Answer: **x = -3**

Question 18

correctly evaluates (-2) x 5 = -10	M1
-1 cao	A1

Answer: **-1**

Question 19

correct first step, 0 + 850 = 850	M1
correct second step, 850 - 1200 = -350	M1
correct third step, -350 + 300 = -50	M1
50 m below ground cao	A1

Answer: **-50 m, i.e. 50 m below ground level**

Question 20

forms n - 12 = -19	M1
correct rearrangement, n = -19 + 12	M1
n = -7 cao	A1
correct check by substitution, -7 - 12 = -19	B1

Answer: **n = -7**

Question 21

-5 cao	B1

Answer: **-5**

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Question 22

-8 cao **B1**

Answer: **-8**

Question 23

-28 cao **B1**

Answer: **-28**

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