Q1) Early one morning the temperature is -3°C. By noon, it has risen by 12°C, falling again to -5°C by midnight.

1. What was the temperature at noon?
2. What was the difference in temperature between noon and midnight?
3. What was the difference in temperature between morning and midnight?

Q2) A submarine is travelling at a depth of 500 m below sea level whilst directly overhead an aeroplane flies at 1300 m above the sea. How far apart are they?

# Q3) Find the value of the following

 a) 13 – 5 b) -2 + 2 c) -3 + 0

 d) -20 - -100 e) 4 – 11 f) -4 × -3

g) 5 × 2 h) -12 ÷ -4 i) -36 ÷ -12

 Q4) Which is larger and by how much

1. -11 + 8 – 3 + 4 – 5

or b) -20 + 17 – 2 – 6 + 5 ?

Q5) Use a calculator to work out the following, in each case making a rough estimate of the answer first:

1. -40 – 23 + 72 + 15 – 18
2. 324 – 78 – 169 – 89 + 54 + 178 – 26

**Exam style questions**

Q6) The temperature on Mount Blanc on each day of a week in January is shown in the table

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Mon | Tues | Wed | Thur | Fri | Sat | Sun |
| -25°C | -18°C | -15°C | -16°C | -19°C | -16°C | -17°C |

 What is the range in temperatures? (2 marks)

Q7) The height, h, of a hang glider above a cliff top after t seconds is h = t – 25

 Work out the height after 14 secs?

 (2 marks)

Q8) On Sue’s birthday she receives £25 from her Aunt, £5 from her brother and £45 from her parents. However, she wants to buy a bike costing £78.00. If she deposits the money into her bank account before buying the bike, how overdrawn will she be?

 (2 marks)

## Q1) a) 9°C

 b) 14°C

 c) 2°C (1 mark each, 3 marks)

 Q2) 1800m ( 1 mark)

 Q3) a) 8

 b) 0

 c) -3

 d) 80

 e) -7

 f) 12

 g) 10

 h) 3

 i) 3 (1 mark each, 9 marks)

 Q4) a) = -7 b)= -6

 (b) is larger by 1 (2 marks)

 Q5) a) rough = 5 exact = 6

 b) rough = 190 exact = 194 (1/2 mark each, 2 marks)

 Q6) range = -15 - -25 = 10°C (2 marks)

 Q7) h = 14 – 25 h = -11m

 (11m below the cliff top) (2 marks)

 Q8) £25 + £5 + £45 = £75 Overdrawn by £3 (2 marks)

### TOTAL / 23