WORKSHEET 2

(REAL NUMBERS: ADDITION, SUBTRACTION, MULTIPLICATION, AND DIVISION OF INTEGERS)

Name: 1 …………………..

2 …………………..

3 …………………..

4 …………………..

1. The table below shows the maximum and minimum temperatures (°C) of five cities on a certain day.

City	A	B	C	D	E
Maximum Temperature (°C)	0	32	17	5	−1
Minimum Temperature (°C)	−6	29	6	−9	−12

(a) Which city has the lowest minimum temperature?

(b) Calculate the difference in the maximum and the minimum temperatures for each city.

(i) Which city experiences the greatest difference in temperature on the day?

(ii) Which cities have the same difference in temperature on the day?

(c) Arrange the minimum temperatures in ascending order.

Solution:

(a) City …………...

(b) Difference in temperatures in

City A: [0 − (...........)] = 6°C

City B: […….. − ……..] = 3°C

City C: [……… − ……..] = ……..°C

City D: [……. − (..........)] = …….°C

City E: [........ − ………..] = ……….°C

(i) City ………...   (ii) Cities …….. and ………...

(c) The minimum temperatures in ascending order are ……… °C, ……. °C, ……… °C, …… °C, …….°C.

2. In a quiz with ten questions, each correct answer is awarded 3 marks, each wrong answer is penalised 2 marks and each unanswered question is penalised 1 mark.

(a) Find the maximum score for the quiz.

(b) Find the lowest possible score for the quiz.

(c) Siti, Devi and Meiling sat for the quiz. Siti had 3 correct answers, 5 wrong answers and 2 blanks, Devi had 5 correct answers, 4 wrong answers and 1 blank, and Meiling had 4 correct answers, 6 wrong answers and no blank.

Who is the highest scorer? Who is the lowest scorer?

Solution:

(a)   Total score = ……. × 3 = ………

(b)   Lowest possible score = …… × (−2) = ………

(c)   Siti's score = 3 × …… + …… × (−2) + …….. × (−1)

        = …….+ (−……..) + (−………)

        = ………

Devi's score = ….... ×….... + …....× (…....) +…....× (…....)

        = …..... + (…....) + (…....)

        = …....

Meiling's score = …..... ×….... +…..... × (….....) +…..... × (…....)

        = …..... + (….....) + …....

        = …....

∴…..... is the highest scorer.

∴…..... is the lowest scorer.

3. Jamilah jogs along a road. Starting from a bus station, she jogs at 4 m/s due north for 20 minutes, then at 5 m/s due south for 15 minutes and finally at 3 m/s due south for 10 minutes. Find her final position from the station.

   Solution:

   Suppose the movement due north is positive.

   Final position =

   (4 x …….. x 60 + (-5) x ………x ……….+ (……….) x …….. x …………..)

   =(……………+………………+………….)

   =………………

   Her final position is …….. m south from the station

4. Evaluate the following.

   (a) $[(−23 + 15) + (−6)] × [(−2 − 8 + (−6))] ÷ (−2) =$

      Solution:

      = [(… … …..) − … … …] x (……… - ……….) : (-2)

      = (……… - ……….) x (……….) : (-2)

      = (……….) x (……….)

      = …………

   (b) $(−2)^2 + (−3)^3 − [−7 − (−8)]^3 =$

      Solution:

      = (……….) + (……….) - (… … ….)³

      = (……….) - (……….)

      = …………