TB(1A) Ch. 1 Directed Numbers & the Number Line

Conventional Questions

1.   **[13-14 Standardized Test 1]**

   Evaluate

   (a) $\left(\dfrac{0.6}{0.02}\right) \times \left[-\dfrac{3}{4} + \left(-\dfrac{2}{5}\right) - \left(+\dfrac{1}{6}\right)\right].$ **(4 marks)**

   (b) $-4^2 \times (-1)^4 - (-16) \div (-4)^2.$ **(3 marks)**

2.   **[13-14 Standardized Test 1]**

Figure 1 shows a dartboard. The scores obtained for hitting different regions

   are shown below:

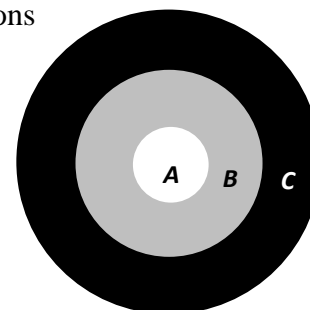| Region	Score
A	+9
B	+4
C	−5
Outside the dartboard	−10

Figure 1

   Sally throws 12 darts, in which 2 hit region *A*, 5 hit region *B*, 3 hit region *C* and 2 fall outside

   the dartboard. Find her score.   **(3 marks)**

3.   **[13-14 Standardized Test 1]**

   The temperature (°C) of a room is measured every hour from 09:00 to 15:00. The change of

   temperature in each hour was recorded as follows.

   +0.4°C, +0.9°C, +1.5°C, –0.5°C, –1°C, –1.3°C.

   "+0.4°C" represents that the temperature increased by 0.4°C from 9:00 to 10:00.

   It is known that the temperature recorded at 9:00 was 28.7°C.

   (a)   Find the highest temperature recorded.   **(2 marks)**

   (b)   Chloe claims, "the lowest temperature was recorded at two different times." Do you

         agree? Explain briefly.   **(3 marks)**

4.   **[13-14 Mid-year Exam]**

   Find the value of $-\dfrac{24 \times 0.6}{8} + \left(\dfrac{1}{4} - \dfrac{1}{9} \times \dfrac{3^2}{25}\right).$ **(3 marks)**

5.   **[13-14 Mid-year Exam]**

   There are 5 multiple-choice questions in a quiz. The marks are calculated according to the

   following rules.

   I.   5 marks will be given for a correct answer.

II.   2 marks will be deducted for an incorrect answer.
III.   1 mark will be deducted for a blank answer.
The following table shows the performance of Tom and Ada.

Question no.	Correct answer	Tom's answer	Ada's answer
1	A	A	A
2	B	D	B
3	B	B	B
4	C	C	–
5	D	B	A

Explain, with calculations, who achieves a better result.   **(4 marks)**

6.   [14-15 Mid-year Exam #1]

Evaluate $-\dfrac{1}{3} + \dfrac{5}{2} \div \left(-\dfrac{5}{6}\right) + \dfrac{5}{6}$.   **(2 marks)**

7.   [14-15 Mid-year Exam #2]

In the first round of a Mathematics contest, there are 25 questions. 4 points are awarded for each correct answer. 2 points are deducted for each incorrect answer and 1 point is deducted for each blank answer. Contestants will enter the second round if they score 75 marks or above in the first round. Explain whether Tom can enter the second round if he has 3 incorrect answers and 2 blank answers.   **(4 marks)**

8.   [15-16 Mid-year Exam #3]

Figure 1 shows a dartboard. The scores obtained for hitting different regions are shown below:

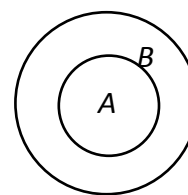| Region	Score
A	3
B	2
Outside the dartboard	– 2

Figure 1

Peter throws 10 darts, of which 3 darts hit region *A*, 2 darts hit region *B*. Find his total score.

                    (2 marks)

9.   [16-17 Mid-year Exam, #2]

Evaluate the following expressions.

(a) $-\dfrac{1}{2} + \dfrac{1}{6}$.   **(1 mark)**

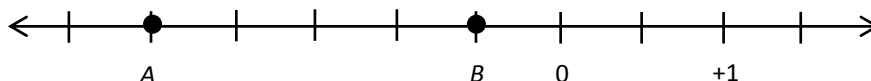**(b)** $(-8) - (-2) \div (+6)$.   **(2 marks)**

10. **[16-17 Mid-year Exam, #3]**

It is given that +2 kg means an increase in weight of 2 kg.

(a) Use a directed number to represent a decrease in weight of 6 kg. **(1 mark)**

(b) The weight of Dickson is 50 kg in April. If his weight is increased by 6 kg in May and is decreased by 9.5 kg in June. Find his weight in the beginning of July. **(2 marks)**

11. **[17-18 Standardized Test #1]**

Consider the following number line.

(a) Write down the directed numbers represented by *A* and *B*. **(2 marks)**

$A = $ _____ $B = $ _____

(b) Find the value of $B - 3A$. **(2 marks)**

12. **[17-18 Standardized Test #2]**

(a) Arrange the following numbers in ascending order of magnitude and use '<' to express the answer.

$$-\frac{1}{4}, -3, +5, 0, \frac{19}{4}, -10$$ **(1 mark)**

(b) Calculate $[8 - (-4)(-3)] \div (-2)$. **(2 marks)**

13. **[17-18 Mid-term Exam, #1]**

Find the values of the following expressions.

(a) $6 - 8 \times 4 \div 3 + 2$ **(2 marks)**

(b) $\dfrac{3}{2} \div \left(-\dfrac{48}{5}\right) \div \left(-3\dfrac{1}{8}\right)$ **(2 marks)**

14. **[17-18 Mid-term Exam, #10]**

There are 25 questions in a test. Five marks will be awarded for each correct answer, one mark will be deducted for each wrong answer and three marks will be deducted for each blank answer.

(a) Elaine answered 19 questions and got 18 of them correct. Find Elaine's score. **(2 marks)**

(b) Gigi only knows the correct answers of 17 questions. She claims that her score must be lower than Elaine's. Do you agree? Explain your answer. **(2 marks)**

~ End ~