DIRECTED NUMBERS
## YEARS 7 AND 8

1   The lowest number out of the list −48, −100, −150, 1, is:

   A   −48   B   −100   C   −150   D   1

2   The next number in the pattern +0.1, −0.2, +0.4, −0.8, ... is:

   A   +0.12   B   +0.16   C   +1.6   D   +1.2

3   −10 − (−4) is equal to:

   A   −40   B   −14   C   −6   D   40

4   When the planet Mercury is closest to the Sun, the temperature on its sunlit side is 467°C and on the dark side is −183°C. This represents the difference of:

   A   248°C   B   384°C   C   550°C   D   650°C

5   The solution to −4 − 7 + 3 + 9 + 7 + 4 − 3 is:

   A   +9   B   +13   C   +31   D   +59

6   12 − (+7) + (−3) is equal to:

   A   +2   B   +8   C   +16   D   +22

7   −12 ÷ 3 × −2 is equal to:

   A   +2   B   −6   C   +8   D   −8

8   Which one of the following gives an answer of −1?

   A   −8 − (−9)   B $\dfrac{5-7}{-6+4}$ C   −6 + 7 × −1   D $(9-7) \times -\frac{1}{2}$

9   Which rule connects a and b in the table?

a	−4	−2	+1
b	13	7	−2

   A   b = a + 17   B   b = 1 − 3a   C   b = a − 3   D   b = 2a + 11

THE NEXT 4 QUESTIONS REFER TO THE INFORMATION BELOW:
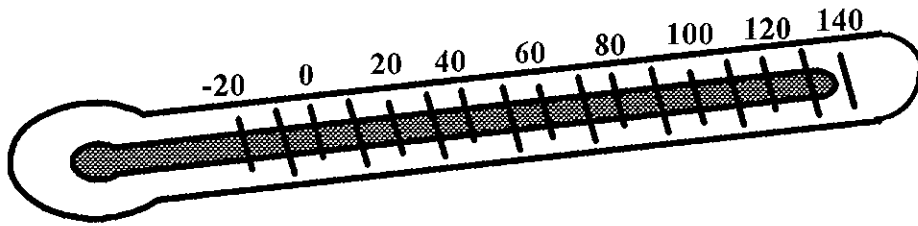
This thermometer takes temperatures ranging from −20°C to 140°C

10   **The biggest range of temperature change it can measure is:**

   A   120°C   B   140°C   C   160°C   D   180°C

11   **One cold Canberra evening the temperature was − 2°C at 6 pm and dropped a further 12°C overnight. The coldest overnight temperature was:**

   A   −10°C   B   −12°C   C   +10°C   D   −14°C

12   **Suppose scientists at Antarctica decide to move our standard zero to a new zero they call 'Ice Zero", which is −15°C. On this new "Ice Scale", what would the value of 24°C, in Ice Scale Units (ISU)?**

   A   +9 ISU   B   −9 ISU   C   −39 ISU   D   +39 ISU

13   **Where would these Antarctica scientists place the zero so that a temperature of −10°C became −40 ISU?**

   A   −30°C   B   −50°C   C   +30°C   D   +50°C

14   **The <u>simplest</u> expression for −4a + 7b − b + 3a is:**

   A   −a + 7   B   6b − a   C   −a² + 6b²   D   −12a − 7b

14   **The <u>simplest</u> expression for −4a + 7b − b + 3a is:**

   A $-a + 7$ B $6b - a$ C $-a^2 + 6b^2$ D $-12a - 7b$

15   **The solution to −4.5 × (3 − 5) × −10 + 20 is:**

   A   −4.5   B   +56.5   C   −70   D   +90

ANSWERS TO DIRECTED NUMBERS – YRS 7 & 8

1	C	2	C	3	C	4	D	5	A	6	A
7	C	8	D	9	B	10	C	11	D	12	A
13	A	14	B	15	C						