Instructions:

- Answer all questions.
- Show all working for full marks.
- Time: 15 minutes.

Section A: Calculations (1 mark each)

1. Solve: $(-7) + 12$

   Working:

   Different signs → subtract: $12 - 7 = 5$.

   Keep the sign of the larger absolute value (12 is positive).

   Answer: $\boxed{5}$

2. Calculate: $(-4) \times (-6)$

   Working:

   Same signs → positive result.

   $4 \times 6 = 24$.

   Answer: $\boxed{24}$

3. Simplify: $15 - (-3)$

   Working:

   Subtracting a negative = adding a positive.

   $15 + 3 = 18$.

   Answer: $\boxed{18}$

4. Evaluate: $(-27) \div 3$

   Working:

   Different signs → negative result.

   $27 \div 3 = 9$.

   Answer: $\boxed{-9}$

Section B: Word Problems (2 marks each)

5. A fish swims at -20 meters, then rises 8 meters. What is its new depth?

   Working:

   $-20 + 8 = -12$.

   Answer: $\boxed{-12 \text{ meters}}$

6. The temperature is $-5°C$ at dawn and rises $11°C$ by noon. What is the noon temperature?

   Working:

   $-5 + 11 = 6$.

   Answer: $\boxed{6°C}$

Section C: Mixed Operations (3 marks each)

7. Solve: $(-3) \times 4 + (-10) \div 2$

   Working:

   1. Multiply: $-3 \times 4 = -12$.
   2. Divide: $-10 \div 2 = -5$.
   3. Add: $-12 + (-5) = -17$.

   Answer: $\boxed{-17}$

8. Simplify: $|-8| - (-2 + 5)$

   Working:

   1. Absolute value: $|-8| = 8$.
   2. Parentheses: $-2 + 5 = 3$.
   3. Subtract: $8 - 3 = 5$.

   Answer: $\boxed{5}$

Section D: Challenge (4 marks)

9. A hiker starts at 0 meters, climbs 120 meters, descends 45 meters, then climbs another 30 meters. Write an integer expression for their final position and solve.

   Working:

   $0 + 120 - 45 + 30 = 105$.

   Answer: $\boxed{105 \text{ meters}}$

10. If $a = -5$ and $b = 3$, find $2a - b^2$.

Working:

1. Substitute: $2(-5) - (3)^2$.
2. Multiply: $-10 - 9$.
3. Subtract: -19.

Answer: $\boxed{-19}$