BCM SCHOOL, BASANT AVENUE, DUGRI, LUDHIANA.
JULY-AUGUST ASSIGNEMENT(2026-27)
CLASS- IX (MATHEMATICS)
ANSWER KEY

SECTION –A (MULTIPLE CHOICE QUESTIONS)	
1.	(a) Rs. 90 Fare = Rs. 30 (first 3 km) + 6 km × Rs. 10 = 30 + 60 = Rs. 90
2.	(a) 36 a = 57, d = -3. Eighth term = a + 7d = 57 + 7(-3) = 57 - 21 = 36
3.	(d) Assertion (A) is false and Reason (R) is true. $2x^2 - 16x = 2x(x - 8)$. If length = x - 4, then $(x - 4)(2x - 8) = 2x^2 - 16x + 32 \neq 2x^2 - 16x$. So (x - 4) is not a factor — Assertion is false. The volume formula in Reason is correct — Reason is true.
SECTION – B(2 MARKS QUESTIONS)	
4.	$ab = 32$, $a^2+b^2 = 80$
5.	Smallest 3-digit multiple of 7 = 105, largest = 994. Nth term = a +(n-1) d 994 = 105 + (n-1) 7 Solving , n = 128
SECTION – C (3 MARKS QUESTIONS)	
6.	4th term = 0 $a + 3d = 0$ $a = -3d$ $T^{25} = a + 24d = -3d + 24d = 21d$ $T^{11} = a + 10d = -3d + 10d = 7d$ Since $21d = 3 \times 7d$, $T^{25} = 3 \times T^{11}$ (Hence proved)
7.	$27x^3 - 8y^3 = (3x)^3 - (2y)^3 = (3x - 2y)(9x^2 + 6xy + 4y^2)$ Also , $(3x - 2y)^2 = 9x^2 - 12xy + 4y^2$ $25 = 9x^2 + 4y^2 - 12(6)$ $9x^2 + 4y^2 = 97$ $9x^2 + 6xy + 4y^2 = 97 + 6(6) = 133$ $27x^3 - 8y^3 = 5 \times 133 = 665$
8.	Slope = -5/4, y-intercept = 5 $x/4 + y/5 = 1 \rightarrow 5x + 4y = 20 \rightarrow y = -(5/4)x + 5$
SECTION -D(5 MARK QUESTION)	
9.	(A) $x + y = 9$……(1) Squaring both sides ,we get $x^2 + y^2 + 2xy = 81$ By putting the value of xy and transposing, we get $x^2 + y^2 = 49$ (B) Cubing equation (1) both sides $x^3 + y^3 + 3xy (x + y) = 729$ Putting the values of xy and x + y and transposing, $x^3 + y^3 = 189$
SECTION – E(4 MARK QUESTIONS)	
10.	(A) Value after 3 years = 50000 - 5000(3) = 50000 - 15000 = Rs. 35,000

	(B) 30000 = 50000 - 5000t 5000t = 20000 t = 4 years Or: Value after m years (drop of Rs. 6000/year) = 50000 - 6000m (C) This is linear decay, since the value decreases by a constant amount each year, giving a linear function with a negative slope.