Algebraic Expressions and Identities: Worksheet -11

1. If P = x – y and Q = x + y then $\frac{P+Q}{P-Q} - \frac{P-Q}{P+Q}$ = [ ]

a) $\frac{y^2 - x^2}{xy}$ b) $\frac{y^2 + x^2}{xy}$ c)xy d)(x-y) / (x+y)

2. S = x^2, T = xy, U = y then $(x + y)^2$ = [ ]

a) S+T+U b) S-2T+UxU

c) S+2T+UxU d) none of these

3. If $\sqrt{a+b} = \sqrt{a} + \sqrt{b}$ then the value of ab is [ ]

a) -1 b) 1 c) 2 d) 0

4. The smallest +ve integer n such that n + 125, n + 201 are both perfect squares. [ ]

a) 198 b) 197 c) 199 d) 195 e) None

5. $(x^2 - x) + (x - x^2) + 2009$ = _____ [ ]

a) 2009 b) $2x^2 - 2x + 2009$ c) 0 d) $x^2 + 2009$

6. If x, y are positive integers $(x+2)^2 = (y+1)^2 = 25$ then x + y = [ ]
a)34 b)10 c)7 d)8

7. x= 1729, y =9271 then y-x is divisible by [ ]
a)13 b)12 c)9 d) None of the above

8. $\frac{2008 \times 2012 + 4}{2010}$ [ ]

a) 2002 b) 2010 c) 2012 d) 2005

9. $a^8 - b^4$ [ ]

a) $(a^4 - b^2)(a^2 - b)(a^2 + b)$ b) $(a^4 + b^2)(a^2 + b)(a^2 - b)$

c) $(a^4 + b^2)(a^2 - b)(a^2 + b)$ d) $(a^4 - b^4)(a^2 - b)(a^2 + b^2)$

10. $144a^2 - 4 =$ [ ]

a) 4(6ab+1)(6ab-1) b) 2(6ab+1)(6ab-1)

c) 3(6ab+1)(6ab-1) d) 5(6ab+1)(6ab-1)

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