Grade 7 Math
Algebra-Expressions and Equations

Name .....
Date .....

Answer The Following

1) Find the sum of following polynomials

A) $2p^3 + q^3 - 14pq - 2q$ and $-p^3 - 10q^3 + 9p^2q + 2pq - 12p + 12q - 18$

B) $9x^2y - 3xy^2 - 8x + 14y - 16$ and $12x^3 + 4y^3 - 12x^2y - 4xy + 9$

2) Find value of a from equation $(a - 5)^2 - (a + 3)^2 = -64$

Hint : Use identity $(a+b)(a-b) = a^2 - b^2$

3) If $a + b = 11$,
$b + c = 12$, and
$c + a = 13$,
then what is the value of $a + b + c$?

4) Deborah bought a total of 17 hens and ducks. He got a discount of $ 0.90 for each hen and a discount of $ 1.10 for each duck. She saved $ 16.90 in total. How many ducks did she buy?

5) If $f(x) = x^2$, find the value of $\frac{f(x+b)-f(x)}{b}$.

Fill in the blanks

6) If $y = -1$.

$(-2y^2 - 8y - 1) - (-4y^2 + 8y - 6) =$ _____

7) Ages of Karen and Sharon are in ratio 2:7 . If sum of their ages is 45 years, age of Sharon is _____ years.

Choose correct answer(s) from given choice

8) If $2x + 2 = 24$, what is the value of $2x - 2$?

a. 23 b. 17

c. 20 d. 27

9) Brian earns $ x daily and spends $ y per week. What is his saving for 7 weeks ?

a. $7x + 49y$ b. $49x - 7y$

c. $7x - 49y$ d. $49x + 7y$