MCQS Worksheet on Chapter 4: Quadratic Equations for Class 10

1. The standard form of the equation $x(2x - 3) = 0$ is:
(a) $2x - 3 = 0$
(b) $2x^2 - 3x = 0$
(c) $x^2 - 3x = 0$
(d) $2x^2 + 3 = 0$

2. If ½ is a root of the equation $x^2 - mx - 5/4 = 0$, then the value of m is:
(a) 2
(b) −2
(c) 3
(d) −3

3. The roots of $x^2 - 3x - 10 = 0$ are:
(a) −2 and 5
(b) 2 and −5
(c) 5 and −2
(d) −5 and −2

4. The roots of $4x^2 - 4x + 1 = 0$ are:
(a) 1/4 and 1/4
(b) 1/2 and 1/2
(c) −1/2 and 1/2
(d) 2 and −2

5. If the product of roots of $kx^2 + 2x + 3k = 0$ is equal to their sum, find k.
(a) $k = 1/3$
(b) $k = -2/3$
(c) $k = -1/3$
(d) $k = 2/3$

6. The discriminant of $3x^2 - 2x + 1/3 = 0$ is:
(a) $D = 4$
(b) $D = 0$
(c) $D = -4$
(d) $D = 2$

7. For what value of k does the equation $kx^2 - 6x + 1 = 0$ have equal roots?
(a) $k = 6$

(b) $k = 9$
(c) $k = 3$
(d) $k = 12$

8. Which of the following equations has no real roots?
(a) $x^2 - 4x + 4 = 0$
(b) $x^2 + 3x - 4 = 0$
(c) $x^2 + x + 1 = 0$
(d) $2x^2 - 5x + 2 = 0$

9. If the equation $(p + 1)x^2 - 6(p + 1)x + 3(p + 9) = 0$ has equal roots, find p.
(a) $p = 3$
(b) $p = 3$ or $p = -1$
(c) $p = -1$
(d) $p = 9$

10. The altitude of a right triangle is 7 cm less than its base. If the hypotenuse is 13 cm, what are the base and altitude?
(a) Base = 10 cm, Altitude = 3 cm
(b) Base = 12 cm, Altitude = 5 cm
(c) Base = 14 cm, Altitude = 7 cm
(d) Base = 11 cm, Altitude = 4 cm

11. The product of two consecutive positive integers is 306. What are the integers?
(a) 15 and 16
(b) 17 and 18
(c) 16 and 17
(d) 18 and 19

12. A train travels 360 km at a uniform speed. If the speed had been 5 km/h more, it would have taken 1 hour less. What was the original speed?
(a) 30 km/h
(b) 40 km/h
(c) 45 km/h
(d) 36 km/h

13. Two pipes together fill a tank in 9 hours 36 minutes. The larger pipe alone fills it 8 hours faster than the smaller. How long does the larger pipe take alone?
(a) 14 hours
(b) 16 hours
(c) 12 hours

(d) 20 hours

14. A two-digit number is such that the product of its digits is 35. When 18 is added to the number, the digits interchange. Find the number.

(a) 57

(b) 73

(c) 75

(d) 53

15. By completing the square, the roots of $x^2 - 4x - 5 = 0$ are:

(a) −1 and 5

(b) 5 and −1

(c) −5 and 1

(d) 4 and 1

Answer key

1-b, 2-b, 3-a, 4-c, 5-b, 6-b, 7-b, 8-c, 9-b, 10 -b, 11 - b, 12 - b, 13 - b, 14 - a, 15 - c