Q1. Find the value of x in each of the following equations:

   a. $x + 1 = \dfrac{5x}{4}$

       $x = $ _____

   b. $\dfrac{2x-1}{3x} = \dfrac{1}{2}$

       $x = $ _____

Q2. Solve the following equation, and choose the correct value of x from the options given below:

$$\frac{2}{x+p} = \frac{4}{x-p}$$

   a. $x = 3p$

   b. $x = 2p$

   c. $x = -2p$

   d. $x = -3p$

Answer: _____

Q3. Classify the following statements as True or False:

a. $x = -2$ is a solution of the equation $\dfrac{2(3+4x)}{1-2x} = -2.$ ___

b. A linear equation can have more than one solution.   ___

c. A linear inequation can have more than one solution.   ___

d. The equations $\dfrac{2x+3}{2x-5} = -\dfrac{1}{7}$ and $\dfrac{4x+6}{4x-10} = -\dfrac{1}{7}$ have the solution $x = -1.$ ___

Q4. If $x = -1$, find the value of a from the equation given below:

$$\frac{1}{2}(x+2a)-\frac{3}{4}(x-a)=9$$

$a =$ _____

Q5. Shruti has a box containing only ₹ 10 and ₹ 20 notes. The total money in the box is ₹ 1050. If the number of ₹ 10 notes is one–third of ₹ 20 notes, find the number of notes of each denomination and fill in the table given below:

Currency	Number of notes	Amount
₹ 10	_____	_____
₹ 20	_____	_____
Total:	_____	₹ 1050

Q6. The sum of the digits of a two–digit number is 9. If 27 is added to the number, the digits are reversed. Find the original number.

Answer: _____

Q7. The ratio of the length and breadth of a rectangular bed is 2 : 1. If both the length and breadth are increased by 2 units, the area increases by 34 square units. Find the length and breadth of the bed.

Length of the bed = _____

Breadth of the bed = _____

Q8. The numerator of a fraction is one–fourth of its denominator. If 1 is added to the numerator, the fraction becomes twice of itself. Find the fraction.

Answer: _____

Q9. In a right–angled triangle, the ratio of the measure of the larger acute angle to the smaller acute angle is 2 : 1. Find all the three angles of the triangle.

Answer: _____

Q10. Find the solution set of $3x + 4 > -2$, if the replacement set is:

    a.   Replacement Set: $\{-3, -2, -1, 0, 1, 2, 3, 4, 5, 6, 7, 8\}$

        Solution set : _____

    b.   Replacement Set: $\{-1, -2, -3, -4, -5, -6, -7\}$

        Solution set : _____

Answers

1. a. $x = 4$;   b. $x = 2$
2. (d)
3. a. True;   b. False;   c. False;   d. True
4. $a = 5$
5.

Currency	Number of notes	Amount
₹ 10	15	₹150
₹20	45	₹900
Total:	60	₹1050

6. 36
7. 5 units, 10 units
8. $\dfrac{1}{4}$
9. 30°, 60°, 90°
10. a. {−1, 0, 1, 2, 3, 4, 5, 6, 7, 8};   b. {−1}