MATHS

NCERT - NCERT Mathematics(HINGLISH)

SIMPLE EQUATIONS

Solved Examples

1. Raju's father's age is 5 years more than three times Raju's age. Find Raju's age, if his father is

44 years old.

A. 13 years

B. 11 years

C. 12 years

D. 14 years

Answer: A

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2. The sum of three times a number and 11 is 32. Find the number.

Find a number, such that one fourth of the number is 3 more than 7.

A. 7, 7

B. 11, 10

C. 7, 40

D. 32, 10

Answer: C

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3. The sum of three times a number and 11 is 32. Find the number.

A. 11

B. 7

C. 32

D. 3

Answer: B

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4. Raju's father's age is 5 years more than three times Raju's age. Raju's father is 44 years old. Set up an equation to find Raju's age.

A. $13 years$

B. $12 years$

C. $11 years$

D. $14 years$

Answer: A

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5. Convert the following equations in statement form:

$(i)\ x - 5 = 9$

$(ii)\ 5p = 20$

$(iii)\ 3n + 7 = 1$

$(iv)\ \frac{m}{5} - 2 = 6$

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6. Write the following statements in the form of equations:(i) The sum of three times x and 11 is 32.(ii) If you subtract 5 from 6 times a number, you get 7.(iii) One fourth of m is 3 more than 7.(iv) One third of a number plus 5 is 8.

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7. Solve $(a)\ 4(m+3)=18$

$(b)\ -2(x+3)=5$

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8. Solve : $12p - 5 = 25$

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9. Solve : (a) $3n + 7 = 25$ (b) $2p - 1 = 23$

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10. A shopkeeper sells mangoes in two types of boxes, one small and one large. A large box contains as many as 8 small boxes plus 4 loose mangoes.Set up an equation which gives the number of mangoes in each small box. The number of mangoes in a large box is given to be 100.

A. $8x + 4 = 90$

B. $9x + 8 = 120$

C. $8x + 4 = 100$

D. $9x + 8 = 110$

Answer: C

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Exercise 4 4

1. Solve the following:(i) Irfan says that he has 7 marbles more than five times the marbles Parmit has. Irfan has 37 marbles. How many marbles does Parmit have?(ii) Laxmi's father is

49 years old. He is 4 years older than three times Laxmi's age. What is Laxmi's age?

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2. Solve the following:(a) The teacher tells the class that the highest marks obtained by a student in her class is twice the lowest marks plus 7. The highest score is 87. What is the lowest score?(b) In an isosceles triangle, the base angles are equal. The vertex angle is 40^{o}. What are the base angles of the triangle?

(Remember, the sum of three angles of a triangle is 180^{o}).(c) Smita's mother is 34 years old. Two years from now mother's age will be 4 times Smita's present age. What is Smita's present age?(d) Sachin scored twice as many runs as Rahul. Together, their runs fell two short of a double century. How many runs did each one score?

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3. Set up equations and solve them to find the unknown numbers in the following cases: (a) Add 4 to eight times a number; you get 60. (b) One fifth of a number minus 4 gives 3. (c) If I take three fourths of a number and count up 3 more, I get 21. (d) When I subtracted 11 from twice a number, the result was 15. (e) Munna subtracts thrice the number of notebooks he has from 50, he finds the result to be 8. (f) Ibenhal thinks of a number. If she adds 19 to it and divides the sum by 5, she will get 8. (g)

Anwar thinks of a number. If he takes away 7 from $\frac{5}{2}$ of the number, the result is $\frac{11}{2}$.

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Exercise 4 1

1. Complete the last column of the table

S. No.	Equation	Value	Say, whether the Equation is Satisfied. (Yes/ No)
(i)	$x+3=0$	$x=3$	
(ii)	$x+3=0$	$x=0$	
(iii)	$x+3=0$	$x=-3$	
(iv)	$x-7=1$	$x=7$	
(v)	$x-7=1$	$x=8$	
(vi)	$5x=25$	$x=0$	
(vii)	$5x=25$	$x=5$	
(viii)	$5x=25$	$x=-5$	
(ix)	$\frac{m}{3}=2$	$m=-6$	
(x)	$\frac{m}{3}=2$	$m=0$	
(xi)	$\frac{m}{3}=2$	$m=6$	

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2. Check whether the value given in the brackets is a solution to the given equation or

not: (a) $n+5=19(n=1)$ (b)

$7n+5=19(n=-2)$ (c)

$7n+5=19(n=2)$ (d) $4p-3=13(p=1)$

(e) $4p-3=13(p=4)$ (f)

$4p-3=13(p=0)$

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3. Solve the following equations by trial and error method :

(i) $5p+2=17$

(ii) $3m-14=4$

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4. Write the following equations in statement forms: (i) $p + 4 = 15$ (ii) $m - 7 = 3$ (iii) $2m = 7$ (iv) $\frac{m}{5} = 3$ (v) $\frac{3m}{5} = 6$ (vi) $3p + 4 = 25$ (vii) $4p - 2 = 18$ (viii) $\frac{p}{2} + 2 = 8$

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5. Write equations for the following statements:(i) The sum of numbers x and 4 is 9. (ii) The difference between y and 2 is 8.(iii)

Ten times a is 70. (iv) The number b divided by 5 gives 6.(v) Three fourth of t is 15. (vi) Seven times m plus 7 gets you 77.(vii) One fourth of a number minus 4 gives 4.(viii) If you take away 6 from 6 times y, you get 60.(ix) If you add 3 to one third of z, you get 30

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6. Set up an equation in the following cases:

(i) Irfan says that he has 7 marbles more than five times the marbles Parmit has. Irfan has 37

marbles. (Take m to be the number of Parmit's marbles.)

(ii) Laxmi's father is 49 years old. He is 4 years older than three times Laxmi's age. (Take Laxmi's age to be y years.)

(iii) The teacher tells the class that the highest marks obtained by a student in her class is twice the lowest marks plus 7. The highest score is 87. (Take the lowest score to be l.)

(iv) In an isosceles triangle, the vertex angle is twice either base angle. (Let the base angle be b in degrees. Remember that the sum of angles of a triangle is 180 degrees).

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Exercise 4 2

1. Solve the following equations:

(a) $10p = 100$

(b) $10p + 10 = 100$

(c) $\frac{p}{4} = 5$

(d) $\frac{-p}{3} = 5$

(e) $\frac{3p}{4} = 6$

(f) $3s = -9$

(g) $3s + 12 = 0$

(h) $3s = 0$

(i) $2q = 6$

(j) $2q - 6 = 0$

(k) $2q + 6 = 0$

(l) $2q + 6 = 12$

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2. Give first the step you will use to separate the variable and then solve the equation:

(a) $x - 1 = 0$

(b) $x + 1 = 0$

(c) $x - 1 = 5$

(d) $x + 6 = 2$

(e) $y - 4 = -7$

(f) $y - 4 = 4$

(g) $y + 4 = 4$

(h) $y + 4 = -4$

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3. Give the steps you will use to separate the variable and then solve the equation:

(a) $3n - 2 = 46$

(b) $5m + 7 = 17$

(c) $\frac{20p}{3} = 40$

(d) $\frac{3p}{10} = 6$

(e) $8y = 36$

(f) $\frac{z}{3} = \frac{5}{4}$

(g) $\frac{a}{5} = \frac{7}{15}$

(h) $20t = 10$

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4. Give first the step you will use to separate the variable and then solve the equation:

(a) $3l = 42$

(b) $\frac{b}{2} = 6$

(c) $\frac{p}{7} = 4$

(d) $4x = 25$

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Exercise 4 3

1. Solve the following equations

(a) 2(x + 4) = 12

(b) 3(n – 5) = 21

(c) $3(n - 5) = -21$

(d) $-4(2 + x) = 8$

(e) $4(2 - x) = 8$

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2. Solve the following equations.

(a) $4 = 5(p - 2)$

(b) $-4 = 5(p - 2)$

(c) $-16 = -5(2 - p)$

(d) $10 = 4 + 3(t + 2)$

(e) $28 = 4 + 3(t + 5)$

(f) $0 = 16 + 4(m - 6)$

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3. Solve the following equations.

(a) $2y + \frac{5}{2} = \frac{37}{2}$

(b) $5t + 28 = 10$

(c) $\frac{a}{5} + 3 = 2$

(d) $\frac{q}{4} + 7 = 5$

(e) $\frac{5x}{2} = -5$

(f) $\frac{5x}{2} = \frac{25}{4}$

(g) $7m + \frac{19}{2} = 13$

(h) $6z + 10 = -2$

(i) $\frac{3l}{2} = \frac{2}{3}$

(j) $\frac{2b}{3} - 5 = 3$

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