

7. SIMPLE EQUATIONS ①

Class: VII . MATHEMATICS

FOUNDATION: SOLUTIONS

(2025/26)

TEACHING TASK JEE MAINS LEVEL

- | | | |
|-----|--|--------|
| 01. | Let the number be x
$x+7=12 \Rightarrow x=5$ | Ans: B |
| 02 | $x-4=10$ | Ans: C |
| 03 | $3x+10=40$ | Ans: A |
| 04 | $3 \times 50 = 50$ | Ans: A |
| 05 | $5x=100$ | Ans: D |
| 06 | $5x+20=50$ | Ans: A |
| 07 | $x-7=15$ | Ans: C |
| 08 | $10 \times 7 = x$ phase change: 10 dollars of Rs-10. | |
| 09 | $40-12=28$ | Ans: A |
| 10 | $3x=15$ | Ans: A |

JEE ADVANCED LEVEL

(2)

01. Let the number of green balls = x
 No. of red balls = $2x + 3$
 $\therefore$ Total $3x + 3 = 21$
 $\Rightarrow x = 6$

Ans. A

02. $3x + 4 = 2x + 9$
 $\Rightarrow x = 5$

Ans: A, B

03. Statement I:

Total distance = $6 + 6 = 12$ Km
 Total time = $2 + 1 = 3$ hours.

Average = $\frac{12}{3} = 4$ km/hr (False)

Statement II: Conceptual true

Ans D

04. Statement I: $2x + 3 = 2x + 5$
 $\Rightarrow 3 = 5$ (False)

Statement II: Conceptual (True)

Ans. D

05. Assertion: Let the two numbers be x and $2x$
 $\therefore x + 2x = 30 \Rightarrow x = 10$. (True)

Reason: True

Ans. A

06

Assertion:

$$\frac{3x}{4} - 2 = \frac{x}{2} + 1$$

(3)

$$\Rightarrow 3x - 8 = 2x + 4$$

$$\Rightarrow x = 12 \text{ (True)}$$

Reason: Conceptual (True)

Ans: A

07

Child ticket = x , Total child = 40Adult ticket = $x + 20$, total adult = 60

$$\therefore 40x + 60(x + 20) = 8800$$

Ans: B

08

$$40x + 60(x + 20) = 8800$$

$$\Rightarrow 100x = 8800 - 1200$$

$$\Rightarrow x = 76$$

Ans: —

09

Total solution = 60 lit

$$\text{Acid} = 25\% \text{ of } 60 = \frac{25}{100} \times 60 = 15 \text{ lit}$$

$$\therefore \text{water} = 60 - 15 = 45 \text{ lit}$$

We want to reduce acid concentration to 20% by adding water only

let the amount of water to be added = x litNow, total solution = $(60 + x)$ lit

Acid remains = 15 lit

$$\therefore \frac{15}{60 + x} = 0.20$$

Ans: A

$$\boxed{10} \quad \frac{15}{60+x} = 0.2$$

$$\Rightarrow 15 = 12 + 0.2x$$

$$\Rightarrow 0.2x = 3$$

$$\Rightarrow x = 15 \text{ lit}$$

Ans: B

11. let the walking speed = x km/hr

distance = 6 km

$$\therefore \text{Speed} = \frac{D}{T} \Rightarrow T = \frac{6}{x} \text{ hr}$$

By, Bicycle = 18 km/hr

distance = 6 km

$$\therefore T = \frac{6}{18} = \frac{1}{3} \text{ hr}$$

Total time = 1 hr

$$\therefore \frac{6}{x} + \frac{1}{3} = 1 \Rightarrow x = 9 \text{ km/hr}$$

Ans: 9

$\boxed{12}$

let No. of correct questions = x

Wrong questions = $20 - x$

please correct the question.

$$x(5) + (20-x)(-2) = \boxed{76} 72$$

$$\Rightarrow x = 16$$

Ans: 16

13 a) $f = 4s (s)$

b) $f + 6 = 2(s + 6) (q)$

c) $f - 5 = 3(s - 5) (r)$

d) $f = s + 30 (p)$

Ans: s, q, r, p

14 a) $3x + 6 = 24 \Rightarrow x = 6 (q)$

b) $\frac{10}{2} = 5 (p)$

c) $|x - 4| = 9 \Rightarrow x = 13 (s)$

d) $\frac{2}{3}x = 16 \Rightarrow x = 24 (r)$

Ans: q, p, s, r

LEARNERS TASK (CUE'S)

01 Conceptual

Ans: B

02 $4y = 12$

Ans: B

03 $2x = 10 \Rightarrow x = 5$

Ans: A

04 $x + 10 = 50 \Rightarrow x = 40$

Ans: A

05 $x - 7 = 15 \Rightarrow x = 22$

Ans: B

06 $x + 12 = 18$

Ans: A

07 $\frac{100}{4} = x \Rightarrow x = 25$

Ans: A

08 $x = 9$

Ans: A
(6)

09 $5x = 45 \Rightarrow x = 9$

Ans: A

10 $8x = 80 \Rightarrow x = 10$

Ans: A

JEE MAINS LEVEL

01 $x + 7 = 12 \Rightarrow x = 5$

Ans: B

02 $x - 4 = 10 \Rightarrow x = 14$

Ans: B

03 $3x + 10 = 40 \Rightarrow x = 10$

Ans: A

04 $x + 5 = 12 \Rightarrow x = 7$

Ans: A

05 $x + 5 = 12 \Rightarrow x = 7$

Ans: A

06 $5x + 20 = 50 \Rightarrow x = 6$

Ans: A

07 $x = 6$

Ans: A

08 $100 \times 7 = 700$

Ans: A

09 $50 - 20 = 30$

Ans: A

10 $30 - 8 = 22$

Ans: A

ADVANCED LEVEL

01 $3x - 4 = 26 \Rightarrow x = 10$

Ans: A

02. $5(x-2) = 3x+4$
 $\Rightarrow 5x-10 = 3x+4$
 $\Rightarrow 2x = 14$
 $\Rightarrow x = 7$

A, B

03. Statement I: Conceptual (True)
Statement II: Conceptual (True)

Ans. A

04. Statement I: Conceptual (True)
Statement II: Conceptual (True)

Ans. A

05. Assertion: $5(x-2) = 3x+10$
 $\Rightarrow 5x-10 = 3x+10$
 $\Rightarrow 2x = 20$
 $\Rightarrow x = 10$ (False)

Reason: Conceptual (True)

Ans. D

06. Assertion: Let the Son's age be x years
 $\therefore$ Father's age $= 4x$
 $\therefore$ ~~$4x$~~
 After 10 years
 $\therefore 4x+10 = 2(x+10)$ (True)

Reason: True

Ans. A

07

Let breadth be x

$$\Rightarrow \text{length} = x + 4$$

$$\therefore \text{perimeter} = 2[x + (x + 4)] = 64$$

Ans: A

(8)

08

$$2[x + (x + 4)] = 64$$

$$\Rightarrow 2x + 4 = 32$$

$$\Rightarrow x = 14$$

$$\therefore \text{breadth} = 14 \text{ cm, length} = 18 \text{ cm}$$

Ans: _____

09

$$2x + 8 = 3x - 10$$

Ans: A

10

$$2x + 8 = 3x - 10$$

$$\Rightarrow 3x - 2x = 8 + 10 \Rightarrow x = 18$$

Ans: A

11.

$$\frac{10}{3} = 3 + \frac{1}{3}$$

Ans: 3

12

$$3x - 6 = 33 \Rightarrow x = 13$$

Ans: 13

13

$$a) x + 7 = 20 \Rightarrow x = 13 (q)$$

$$b) 3x = 27 \Rightarrow x = 9 (p)$$

$$c) x = 15 (s)$$

$$d) 2(x + 2) = 18 \Rightarrow x + 2 = 9 \Rightarrow x = 7 (r)$$

Ans: q, p, s, r

- 14 a) $x+5=x+5$ (Identity) (P, S) (9)
b) $2x+3=2x+5$ (Contradiction) (q)
c) $4x-3=x+6 \Rightarrow 3x=9 \Rightarrow x=3$ (r)
d) $5x-2=5x-2$ (Identity) (P, S)

Ans: (P, S), q, r, (P, S)

$\Rightarrow$ THE END $\Leftarrow$