

**EduSahara™ Learning Center Assignment****Grade : Class IX, ICSE****Chapter : Expansions****Name : Finding Values of Expressions**

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1. If  $\left(x + \frac{1}{x}\right) = 7$ , find the value of  $\left(x^2 + \frac{1}{x^2}\right)$

(i) 50 (ii) 46 (iii) 48 (iv) 45 (v) 47

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2. If  $\left(x + \frac{1}{x}\right) = 3$ , find the value of  $\left(x^4 + \frac{1}{x^4}\right)$

(i) 48 (ii) 46 (iii) 44 (iv) 47 (v) 49

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3. If  $\left(x - \frac{1}{x}\right) = 4$ , find the value of  $\left(x^2 + \frac{1}{x^2}\right)$

(i) 16 (ii) 19 (iii) 21 (iv) 17 (v) 18

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4. If  $\left(x - \frac{1}{x}\right) = 5$ , find the value of  $\left(x^4 + \frac{1}{x^4}\right)$

(i) 728 (ii) 724 (iii) 727 (iv) 726 (v) 730

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5. If  $\left(x^2 + \frac{1}{x^2}\right) = 62$ , find the value of  $\left(x + \frac{1}{x}\right)$

(i) 10 (ii) 6 (iii) 7 (iv) 9 (v) 8

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6. If  $\left(x^4 + \frac{1}{x^4}\right) = 1154$ , find the value of  $\left(x + \frac{1}{x}\right)$

(i) 7 (ii) 6 (iii) 8 (iv) 4 (v) 5

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7. If  $\left(x^2 + \frac{1}{x^2}\right) = 11$ , find the value of  $\left(x - \frac{1}{x}\right)$

(i) 2 (ii) 0 (iii) 4 (iv) 3 (v) 5

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8. If  $\left(x^4 + \frac{1}{x^4}\right) = 1442$ , find the value of  $\left(x - \frac{1}{x}\right)$

(i) 5 (ii) 3 (iii) 9 (iv) 7 (v) 6

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9. If  $\left(x - \frac{1}{x}\right) = 5$ , find the value of  $\left(x^3 - \frac{1}{x^3}\right)$

(i) 142 (ii) 139 (iii) 140 (iv) 141 (v) 138

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10. If  $\left(x + \frac{1}{x}\right) = 3$ , find the value of  $\left(x^3 + \frac{1}{x^3}\right)$

(i) 19 (ii) 15 (iii) 17 (iv) 21 (v) 18

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11. If  $\left(6x + \frac{1}{2x}\right) = 5$ , find the value of  $\left(36x^2 + \frac{1}{4x^2}\right)$

(i) 19 (ii) 16 (iii) 21 (iv) 20 (v) 18

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12. If  $\left(6x - \frac{1}{3x}\right) = 7$ , find the value of  $\left(36x^2 + \frac{1}{9x^2}\right)$

(i) 50 (ii) 52 (iii) 54 (iv) 53 (v) 55

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13. If  $\left(4x - \frac{1}{3x}\right) = 2$ , find the value of  $\left(64x^3 - \frac{1}{27x^3}\right)$

(i) 19 (ii) 14 (iii) 16 (iv) 17 (v) 15

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14. If  $(a + b) = 8$ ,  $ab = 12$ , find  $(a^2 + b^2)$

(i) 39 (ii) 41 (iii) 40 (iv) 38 (v) 42

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15. If \_\_\_\_\_, \_\_\_\_\_, find (\_\_\_\_\_)

$$(a^2 + b^2) = 25 \quad ab = 12 \quad a + b$$

(i) 8 (ii) 7 (iii) 4 (iv) 10 (v) 6

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16. If  $(a - b) = 3$ ,  $ab = 18$ , find  $(a^2 - b^2)$

(i) 30 (ii) 28 (iii) 27 (iv) 26 (v) 25

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17. If  $(a^2 - b^2) = 5$ ,  $ab = 6$ , find  $(a - b)$

(i) 3 (ii) 0 (iii) -2 (iv) 2 (v) 1

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18. If  $(6a + 3b) = 48$ ,  $ab = 24$ , find  $(36a^2 + 9b^2)$

(i) 1438 (ii) 1439 (iii) 1443 (iv) 1441 (v) 1440

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19. If  $(9a^2 + 36b^2) = 468$ ,  $ab = 12$ , find  $(3a + 6b)$

(i) 30 (ii) 31 (iii) 33 (iv) 29 (v) 28

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20. If  $(a + b) = 11$ ,  $ab = 30$ , find  $(a^3 + b^3)$

(i) 340 (ii) 338 (iii) 344 (iv) 342 (v) 341

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21. If  $(a - b) = 2$ ,  $ab = 15$ , find  $(a^3 - b^3)$

(i) 97 (ii) 98 (iii) 95 (iv) 100 (v) 99

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22. If  $(6a + 2b) = 42$ ,  $ab = 18$ , find  $(216a^3 + 8b^3)$

(i) 46873 (ii) 46871 (iii) 46870 (iv) 46872 (v) 46874

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23. If  $(a + b) = 8$ ,  $ab = 15$ , find  $(a^4 + b^4)$

(i) 706 (ii) 704 (iii) 708 (iv) 707 (v) 705

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24. If  $(a^4 + b^4) = 337$ ,  $ab = 12$ , find  $(a + b)$

(i) 6 (ii) 10 (iii) 5 (iv) 7 (v) 8

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25.

If  $(a - b) = 2$  ,  $ab = 24$  , find  $(a^4 - b^4)$

(i) 1042 (ii) 1039 (iii) 1040 (iv) 1041 (v) 1038

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26. If  $(4a + 3b) = 18$  ,  $ab = 6$  , find  $(256a^4 + 81b^4)$

(i) 22035 (ii) 22029 (iii) 22033 (iv) 22032 (v) 22031

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27. If  $(16a^4 + 16b^4) = 14096$  ,  $ab = 20$  , find  $(2a + 2b)$

(i) 16 (ii) 19 (iii) 18 (iv) 21 (v) 17

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28. If  $(a + b + c) = 21$  ,  $(a^2 + b^2 + c^2) = 149$  , find  $(ab + ac + bc)$

(i) 143 (ii) 145 (iii) 147 (iv) 146 (v) 149

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29. If  $(a + b + c) = 14$  ,  $(ab + ac + bc) = 64$  , find  $(a^2 + b^2 + c^2)$

(i) 69 (ii) 71 (iii) 68 (iv) 67 (v) 65

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**Assignment Key**

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- 1) (v)
- 2) (iv)
- 3) (v)
- 4) (iii)
- 5) (v)
- 6) (ii)
- 7) (iv)
- 8) (v)
- 9) (iii)
- 10) (v)
- 11) (i)
- 12) (iv)
- 13) (iii)
- 14) (iii)
- 15) (ii)
- 16) (iii)
- 17) (v)
- 18) (v)
- 19) (i)
- 20) (v)
- 21) (ii)
- 22) (iv)
- 23) (i)
- 24) (iv)
- 25) (iii)
- 26) (iv)
- 27) (iii)
- 28) (iv)
- 29) (iii)