

**SUBSTITUTION**

**ANSWERS - PAGE 1**

**ADDITION AND SUBTRACTION**

**HELPFUL EXAMPLES. FIND THE VALUE OF EACH EXPRESSION IF  $c = 5$  AND  $k = 2$ .**

A. $c + 10$ $5 + 10$ $15$	SUBSTITUTE: CHANGE THE "c" TO 5. THEN ADD.	B. $12 - k$ $12 - 2$ $10$	SUBSTITUTE: CHANGE THE "k" TO 2. THEN SUBTRACT.	C. $c - k$ $5 - 2$ $3$	SUBSTITUTE: CHANGE THE "c" AND THE "k". THEN SOLVE.
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**FIND THE VALUE OF EACH EXPRESSION IF  $m = 7$ .**

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|------------|-------------|------------|-------------|
| 1. $m + 4$ | 2. $13 + m$ | 3. $m + 8$ | 4. $25 + m$ |
| 11         | 20          | 15         | 32          |
| 5. $m - 2$ | 6. $16 - m$ | 7. $m - 7$ | 8. $19 - m$ |
| 5          | 9           | 0          | 12          |

**FIND THE VALUE OF EACH EXPRESSION IF  $x = 2$  AND  $y = 9$ .**

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|-----------------|------------------|------------------|------------------|
| 9. $x + 5 + y$  | 10. $10 + x + y$ | 11. $y + x + 17$ | 12. $2 + x + y$  |
| 16              | 21               | 28               | 13               |
| 13. $y - 3 - x$ | 14. $21 - x - y$ | 15. $y - x - 5$  | 16. $18 - y - x$ |
| 4               | 10               | 2                | 7                |

**FIND THE VALUE OF EACH EXPRESSION IF  $g = 11$  AND  $t = 15$ .**

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|------------------|------------------|------------------|------------------|
| 17. $g - 10 + t$ | 18. $8 + g - t$  | 19. $t - 13 + g$ | 20. $t + g - 11$ |
| 16               | 4                | 13               | 15               |
| 21. $19 + t - g$ | 22. $17 - t + g$ | 23. $g + t - 25$ | 24. $g - 6 + t$  |
| 23               | 13               | 1                | 20               |

**FIND THE VALUE OF EACH EXPRESSION IF  $a = 3$ ,  $b = 18$ ,  $c = 5$ .**

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|---------------------|----------------------|----------------------|-----------------|
| 25. $a + b + c$     | 26. $c + 8 - a + b$  | 27. $20 - b + c - a$ | 28. $b - c + a$ |
| 26                  | 28                   | 4                    | 16              |
| 29. $b + 4 - c + a$ | 30. $13 + c - b + a$ | 31. $b - c - a + 9$  | 32. $b + a - c$ |
| 20                  | 3                    | 19                   | 16              |

**SUBSTITUTION**

**ANSWERS - PAGE 2**

**MULTIPLICATION AND DIVISION**

**HELPFUL EXAMPLES. FIND THE VALUE OF EACH EXPRESSION IF  $s = 5$  AND  $r = 2$ .**

A. $3rs = 3 \times 2 \times 5 = 3 \cdot 2 \cdot 5 = 30$	3rs IS THE SAME AS $3 \times r \times s$ OR $3 \times 2 \times 5$ .	B. $\frac{24}{r} = \frac{24}{2} = 24 \div 2 = 12$	$\frac{24}{r}$ THIS MEANS 24 DIVIDED BY r OR 24 DIVIDED BY 2.
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**FIND THE VALUE OF EACH EXPRESSION IF  $k = 8$ .**

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|-----------------------------|-----------------------------|-------------------------------|---------------------|
| 1. $3 \times k = 3 \cdot k$ | 2. $k \div 2$               | 3. $32 \div k$                | 4. $k \cdot 5$      |
| 24                          | 4                           | 4                             | 40                  |
| 5. $4 \times k = 4k$        | 6. $k \div 4 = \frac{k}{4}$ | 7. $48 \div k = \frac{48}{k}$ | 8. $k \cdot 2 = 2k$ |
| 32                          | 2                           | 6                             | 16                  |

**FIND THE VALUE OF EACH EXPRESSION IF  $d = 2$  AND  $n = 10$**

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|---------------------------|-------------------------------|---------------------------|------------------------|
| 9. $n \div d \div 5$      | 10. $2 \cdot d \cdot n = 2dn$ | 11. $5dn$                 | 12. $20 \div d \div n$ |
| 1                         | 40                            | 100                       | 1                      |
| 13. $\frac{n}{5} \cdot d$ | 14. $40 \div n \div d$        | 15. $6 \cdot \frac{n}{d}$ | 16. $4d \cdot 7$       |
| 4                         | 2                             | 30                        | 56                     |

**FIND THE VALUE OF EACH EXPRESSION IF  $t = 3$  AND  $v = 21$**

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|--------------------------------|--------------------|-----------------------|---------------------------|
| 9. $v \div t \cdot 2$          | 10. $2tv$          | 11. $5t \cdot 4$      | 12. $7 \cdot t \div v$    |
| 14                             | 126                | 60                    | 1                         |
| 13. $\frac{2v}{6} = 2v \div 6$ | 14. $\frac{8t}{4}$ | 15. $t^2 = t \cdot t$ | 16. $6 \cdot \frac{v}{t}$ |
| 7                              | 6                  | 9                     | 42                        |

**FIND THE VALUE OF EACH EXPRESSION IF  $f = 2$ ,  $h = 12$ ,  $w = 4$ .**

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|-------------------------------|--------------------|-------------------------------------|------------------------|
| 25. $fhw$                     | 26. $\frac{fh}{w}$ | 27. $\frac{h}{f} \cdot \frac{w}{f}$ | 28. $\frac{2h}{fw}$    |
| 96                            | 6                  | 12                                  | 3                      |
| 29. $w^3 = w \cdot w \cdot w$ | 30. $3h \div 2f$   | 31. $5f \cdot 4w$                   | 32. $\frac{2fhw}{fhw}$ |
| 64                            | 9                  | 160                                 | 2                      |