6.2 SOLVING TYPE II EQUATIONS

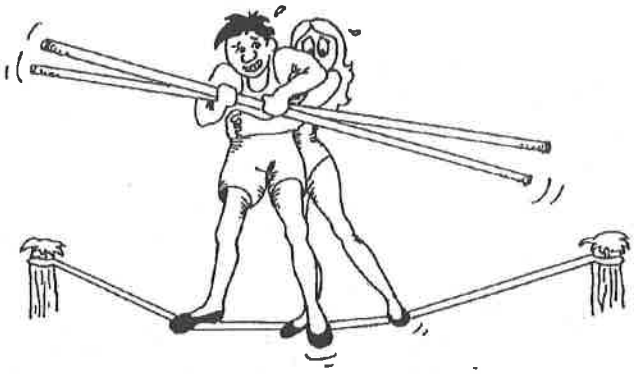
A **Type II** equation will require you to do two opposite or inverse operations to solve for the variable (letter). Always do the opposite of any addition or subtraction first, then proceeed to do the inverse operation of any multiplication or division, as shown in the examples below.

EXAMPLE #1

$5x - 9 = 8$
$5x = 8 + 9$
$5x = 17$
$\frac{5x}{5} = \frac{17}{5}$
$x = 3.4$

EXAMPLE #2

$\frac{x}{5} + 7 = 9.3$
$\frac{x}{5} = 9.3 - 7$
$\frac{x}{5} = \frac{2.3}{1}$
$x = 11.5$



A. Solve the following.

1. $3x + 2 = 14$ — 4
2. $\frac{x}{-3} + 4 = 10$ — −18
3. $x + 3 = 3\,{}^{4}/_{5}$ — $\frac{4}{5}$
4. ${}^{1}/_{2}\,x - 8 = 16$ — 48
5. $5x - 0.9 = 2$ — 0.58
6. ${}^{1}/_{2}\,x + {}^{3}/_{4} = {}^{7}/_{8}$ — $\frac{1}{4}$
7. $1.2x - 1.2 = 8.4$ — 8
8. ${}^{2}/_{7}\,x - 5 = 15$ — 70
9. $\frac{x}{7} - 8 = 10$ — 126
10. $4x + 8 = 4$ — −1
11. ${}^{4}/_{5}\,x = 60$ — 75
12. $0.2x + 0.3 = 1.4$ — 5.5
13. $\frac{x}{5} + 3 = -8$ — −55
14. $12 = \frac{x}{8} + 5$ — 56
15. $\frac{x}{8} + 5 = -12$ — −136
16. $-18x + 5 = 13.2$ — $-0.4\overline{5}$
17. $5x - 3 = 18$ — 4.2
18. $\frac{x}{7} - 8 = -10$ — −14
19. $14 = 3x - 5$ — $6\frac{1}{3}$
20. $\frac{x}{5} + 18 = 5$ — −65
21. $4x + 7 = 0.07$ — −1.7325
22. ${}^{2}/_{3}\,x - 8 = 8$ — 24
23. $-13x + 3 = 6$ — $-\frac{3}{13}$
24. $-4.2x + 4 = -8$ — 2.857