

# Solving Absolute Value Equations



Level 1 - Solve simple absolute value equations

Level 2 - Solve multi-step absolute value equations

Level 3 - Create and solve absolute value equations

## Answers:

### Level 1

a) $x = +9, -9$	b) $r = +1, -1$	c) no solution
d) $m = +5, -5$	e) $y = +4, -4$	f) no solution
g) $c = +6, -6$	h) $p = +12, -12$	i) $f = +10, -10$
j) $q = +20, -20$	k) $v = +24, -24$	l) $w = +14, -14$
m) $x = +8, -2$	n) $n = +1, -5$	o) no solution
p) $t = +4, -10$	q) $q = +10, -6$	r) $k = +4, -14$

### Level 2

a) $n = +1, -5$	b) $x = 0, -1$	c) $c = +12, -12$
d) $m = +1, +7$	e) $y = -1, -5$	f) $n = +11, -10$
g) $k = +5, -5$	h) $n = +10, -10$	i) $h = +12, -24$
j) $m = +13, -3$	k) $p = +9, -9$	l) $r = +6, -6$

### Level 3

a) $ x - 75  = 3$ , minimum = 72, maximum = 78
b) $ x - 288  = 16$ , minimum = 272, maximum = 304
c) $ x - 98.6  = 2.4$ , range: 96.2°F to 101.0°F
d) $ 2x - 36  = 6$ , possible VIP ticket prices: \$15 or \$21
e) $ 3x - 60  = 9$ , possible rod lengths: from 17cm to 23cm