

# معادله های جبری

مقدار مجهول را در هر معادله پیدا کنید

1.)  $4a + 10 = 2a + 26$

2.)  $5a - a - 8 = 15 + 3a$

3.)  $3a^2 - 11 = 21 + a^2$

4.)  $13 + 2a = 3a - 14 + 2a$

5.)  $7(a - 4) - 2a = 19 + 3(a + 3)$

6.)  $28 - 4a = 6(2a - 2) + 24$

اگر  $b=4$  و  $c=5$  مقدار مجهول  $a$  را در هر معادله پیدا کنید

1.)  $6(a + 2) + 2c = b^2 - a + 27$

2.)  $17 + 2b - 4c = 4(a - 7) - 3$

3.)  $3(c + 6) - 4b = 2b - 16 + 5(a + 1)$

4.)  $a^3 + c^2 - 6b = 4b + 3c - 3$

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5.)  $32 - 2(b - 5) - 2c = 3(a + 7) - 18$

6.)  $3b + 2c + 5 = a^2 - 9$

$$1.) 4a + 10 = 2a + 26$$

$$4a - 2a = 26 - 10$$

$$2a = 16$$

$$a = 8$$

$$2.) 5a - a - 8 = 15 + 3a$$

$$4a - 3a = 15 + 8$$

$$a = 23$$

$$3.) 3a^2 - 11 = 21 + a^2$$

$$3a^2 - a^2 = 21 + 11$$

$$2a^2 = 32$$

$$a^2 = 16$$

$$a = 4$$

$$4.) 13 + 2a = 3a - 14 + 2a$$

$$13 + 14 = 3a + 2a - 2a$$

$$27 = 3a$$

$$a = 9$$

$$5.) 7(a - 4) - 2a = 19 + 3(a + 3)$$

$$7a - 28 - 2a = 19 + 3a + 9$$

$$5a - 3a = 28 + 19 + 9$$

$$2a = 56$$

$$a = 28$$

$$6.) 28 - 4a = 6(2a - 2) + 24$$

$$28 - 4a = 12a - 12 + 24$$

$$-4a - 12a = -28 - 12 + 24$$

$$-16a = -16$$

$$a = 1$$

$$1.) 6(a + 2) + 2c = b^2 - a + 27$$

$$6a + 12 + 2(5) = (4)^2 - a + 27$$

$$6a + 12 + 10 = 16 - a + 27$$

$$6a + a + 22 = 43$$

$$7a = 21$$

$$a = 3$$

$$2.) 17 + 2b - 4c = 4(a - 7) - 3$$

$$17 + 2(4) - 4(5) = 4a - 28 - 3$$

$$17 + 8 - 20 = 4a - 31$$

$$5 + 31 = 4a$$

$$36 = 4a$$

$$a = 9$$

$$3.) 3(c + 6) - 4b = 2b - 16 + 5(a + 1)$$

$$3(5 + 6) - 4(4) = 2(4) - 16 + 5a + 5$$

$$3(11) - 16 = 8 - 16 + 5a$$

$$33 - 16 = -8 + 5a$$

$$17 + 13 = 5a$$

$$30 = 5a$$

$$a = 6$$

$$4.) a^3 + c^2 - 6b = 4b + 3c - 3$$

$$a^3 + (5)^2 - 6(4) = 4(4) + 3(5) - 3$$

$$a^3 + 25 - 24 = 16 + 15 - 3$$

$$a^3 + 1 = 28$$

$$a^3 = 27$$

$$a = 3$$

$$5.) 32 - 2(b - 5) - 2c = 3(a + 7) - 18$$

$$32 - 2(4 - 5) - 2(5) = 3a + 21 - 18$$

$$32 - 2(-1) - 10 = 3a + 3$$

$$22 + 2 - 3 = 3a$$

$$21 = 3a$$

$$a = 7$$

$$6.) 3b + 2c + 5 = a^2 - 9$$

$$3(4) + 2(5) + 5 = a^2 - 9$$

$$12 + 10 + 5 = a^2 - 9$$

$$27 + 9 = a^2$$

$$36 = a^2$$

$$a = 6$$