

Name: KEY

DEVELOPING

Translating Phrases: One-Step Equations

ES1

Translate each verbal phrase into an algebraic expression.

1) Sum of x and 3 gives 5

$$\underline{x+3=5}$$

2) 2 multiplied by b is equal to 8

$$\underline{2b=8}$$

3) Difference between y and 23 is 12

$$\underline{y-23=12}$$

4) Product of 4 and z is the same as 16

$$\underline{4z=16}$$

5) Total of m and 3 is 21

$$\underline{m+3=21}$$

6) b divides 6 gives 1

$$\underline{\frac{b}{6}=1}$$

7) n minus 2 is equal to 16

$$\underline{n-2=16}$$

8) 11 times p is 33

$$\underline{11p=33}$$

9) 20 exceeds c gives 18

$$\underline{20-c=18}$$

10) One-half of x is equal to 3

$$\underline{\frac{1}{2}x=3}$$

or $\underline{\frac{x}{2}=3}$

Why Did the Cow Keep Jumping Over the Barrel?

Translate each phrase below into an algebraic expression and find your answer in the corresponding answer column. Write the letter of that exercise in the box that contains the number of the answer.

(E) 3 times a number	(18) $x + 3$	(S) 5 times a number, increased by 8	(22) $8(x + 5)$
(O) 3 more than a number	(15) $3x - 8$	(A) 5 times the sum of a number and 8	(4) $8(2x + 5)$
(S) 3 decreased by a number	(19) $x - 3$	(H) 5 more than 8 times a number	(2) $8x + 5$
(R) 3 less than a number	(12) $3x + 8$	(O) 8 times the sum of a number and 5	(13) $2(5x + 8)$
(A) one third of a number	(3) $3x$	(C) twice the sum of 5 times a number and 8	(6) $5x + 8$
(I) 8 more than 3 times a number	(25) $3 - x$	(T) 2 more than five eighths of a number	(20) $5(x + 8)$
(N) 8 less than 3 times a number	(5) $\frac{x}{3}$	(W) 8 times the sum of twice a number and 5	(11) $\frac{5}{8}x + 2$

(A) 7 less than 4 times a number	(1) $7 - 4x$	(T) 9 meters higher than altitude x	(7) $x + 15$
(S) 7 decreased by 4 times a number	(16) $2x - 9$	(F) 15 meters per second slower than speed x	(28) $x + 9$
(G) 9 less than twice a number	(14) $7x + 4$	(P) 15°C hotter than temperature x	(26) $4x - 9$
(N) 9 decreased by twice a number	(9) $4x - 7$	(O) 9 meters shorter than twice length x	(23) $2x - 9$
(O) 9 less than half a number	(8) $7x + 4x$	(C) 9 years older than twice age x	(10) $2x + 9$
(I) 7 times a number, increased by 4	(24) $9 - 2x$	(H) \$9 cheaper than 4 times price x	(17) $x - 15$
(R) 7 times a number, increased by 4 times the number	(27) $\frac{x}{2} - 9$	(M) 9 centimeters less than three fourths of length x	(21) $\frac{3}{4}x - 9$

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
S	H	E	W	A	S	P	R	A	C	T	I	C	I	N	G	F	O	R	A	M	O	O	N	S	H	O	T

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PROFICIENT

Translating Phrases: Two-Step Equations

ES1

Translate each verbal phrase into an algebraic expression.

1) Product of 2 and the difference between t and 1 is 14 $2(t-1) = 14$

2) The quotient of e plus 2 and 5 results in 4 $\frac{e+2}{5} = 4$

3) Combine 3 and 5 times j gives 18 $3+5j = 18$

4) Subtract 3 from quarter of g is 6 $\frac{1}{4}g - 3 = 6$
or $\frac{g}{4} - 3 = 6$

5) 4 multiplied by the sum of y and 7 is equal to 16 $4(y+7) = 16$

6) Twice of x diminished by 9 equals 5 times x $2x - 9 = 5x$

7) 3 divides the difference between h and 4 represents 5 $\frac{h-4}{3} = 5$

8) Triple b less 4 equals 8 $3b - 4 = 8$

9) Half of k increased by 1 is equivalent to 7 $\frac{1}{2}k + 1 = 7$
or $\frac{k}{2} + 1 = 7$

10) Subtract 4 from thrice of c is 7 times c $3c - 4 = 7c$

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Translating Phrases: Two-Step Equations

ES2

Translate each verbal phrase into an algebraic expression.

- 1) 6 divides the total of m and 1 equals two

$$\frac{m+1}{6} = 2$$

- 2) Take away 3 from half of d gives 8

$$\frac{1}{2}d - 3 = 8$$

or $\frac{d}{2} - 3 = 8$

- 3) The sum of thrice c and 6 is 7 times c

$$3c + 6 = 7c$$

- 4) Adding 2 to 5 times r gives seventeen

$$5r + 2 = 17$$

- 5) The product of 3 and the sum of e and 8 is 21

$$3(e+8) = 21$$

- 6) The quotient of y and 3 added to 9 equals 10

$$\frac{y}{3} + 9 = 10$$

or $\frac{1}{3}y + 9 = 10$

- 7) Combine 3 times j and 16 is 7 times j

$$3j + 16 = 7j$$

- 8) 2 divides the difference between h and 6 is 8

$$\frac{h-6}{2} = 8$$

- 9) Subtract 2 times k from 1 equals 13

$$1 - 2k = 13$$

- 10) 7 multiplied by the difference between v and 5 gives 14

$$7(v-5) = 14$$

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EXTENDING

Translating Phrases: Multi-Step Equations

ES1

Translate each verbal phrase into an algebraic expression.

- 1) Twice the difference between 6 times h and 3 gives 30

$$\underline{2(6h-3)=30}$$

- 2) Sum of 5 times z and 4 divided by two is 7

$$\underline{\frac{5z+4}{2}=7}$$

- 3) Twenty-two minus the product of 7 and y yields 1

$$\underline{22-7y=1}$$

- 4) Quotient of 8 lowered by 2 times t and 3 is two

$$\underline{\frac{8-2t}{3}=2}$$

- 5) Three-fourths of x added to twice of x gives 11

$$\underline{\frac{3}{4}x + 2x = 11}$$

or $\underline{\frac{3x}{4} + 2x = 11}$

- 6) 5 times together of 6 and 4 multiplied by g is equivalent to 50

$$\underline{5(6+4g)=50}$$

- 7) Altogether of 9 and two-thirds of k alike 13

$$\underline{9 + \frac{2}{3}k = 13}$$

or $\underline{9 + \frac{2k}{3} = 13}$

- 8) 7 raised by thrice of c dropped by factor of five is 2

$$\underline{\frac{7+3c}{5}=2}$$

- 9) 8 divides total of 3 times f and six equals 3

$$\underline{\frac{3f+6}{8}=3}$$

- 10) ^{→ "Product"} Volume of 8 and the product of 5 and q increased by 6 yields 88

$$\underline{8(5q+6)=88}$$

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Translating Phrases: Multi-Step Equations

ES2

Translate each verbal phrase into an algebraic expression.

- 1) Thirty-five take away y reduced by factor of five is 5

$$\frac{35-y}{5} = 5$$

- 2) Combine two-thirds of h and 26 corresponds to 34

$$\frac{2}{3}h + 26 = 34$$

or $\frac{2h}{3} + 26 = 34$

- 3) Product of 4 and z decreased by 14 multiplied by 6 gives 18

$$6(4z - 14) = 18$$

- 4) Five-sevenths of x deducted from 19 coincides with 14

$$19 - \frac{5}{7}x = 14$$

or $19 - \frac{5x}{7} = 14$

- 5) Three divides 4 times t plus five gives eleven

$$\frac{4t+5}{3} = 11$$

- 6) Thrice the sum of 9 times z and 1 is same as 30

$$3(9z + 1) = 30$$

- 7) x diminished by three-fifths of x is equal to 10

$$x - \frac{3}{5}x = 10$$

or $x - \frac{3x}{5} = 10$

- 8) Difference between 25 and factor of 11 and j will be 3

$$25 - 11j = 3$$

- 9) Ratio of sum of fifteen and seven times h to three is 12

$$\frac{15+7h}{3} = 12$$

- 10) 3 multiplied by the double of f minus nine equivalent to fifteen

$$3(2f - 9) = 15$$

→ (*wrong word?*)