

Varied Fluency

Step 10: Find Pairs of Values 2

National Curriculum Objectives:

Mathematics Year 6: (6A5) [Enumerate possibilities of combinations of two variables](#)

Differentiation:

Developing Questions to support solving equations which involve multiples of one unknown, using all four operations and whole numbers less than 20.

Expected Questions to support solving equations which involve multiples of one unknown, using all four operations and whole numbers.

Greater Depth Questions to support solving equations which involve multiples of one or more unknown, using all four operations with whole numbers, decimals, fractions and negative numbers.

More [Year 6 Algebra](#) resources.

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Find Pairs of Values 2

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1a. Which pair of values does not satisfy the equation?

$$a \div b = 3$$

$$a = 18$$

$$b = 6$$

$$a = 12$$

$$b = 4$$

$$a = 16$$

$$b = 4$$



VF

1b. Which pair of values does not satisfy the equation?

$$h \times i = 24$$

$$h = 3$$

$$i = 8$$

$$h = 5$$

$$i = 6$$

$$h = 6$$

$$i = 4$$



VF

2a. Use the numbers in the table to find all the possible combinations for the two variables below.

$$a - b = 5$$

12	14	3	7
15	19	10	8



VF

2b. Use the numbers in the table to find all the possible combinations for the two variables below.

$$d + e = 18$$

10	1	12	6
17	8	14	4



VF

3a. Work out the values of b and c .

$$a = 8$$

$$a + b = 17$$

$$c + b = 13$$

$$b = \boxed{} \quad c = \boxed{}$$



VF

3b. Work out the values of a and c .

$$b = 9$$

$$b \times a = 18$$

$$c - b = 6$$

$$a = \boxed{} \quad c = \boxed{}$$



VF

4a. List three possible values for a and b , where $c = 18$.

$$2a + b = c$$



VF

4b. List three possible values for c and d , where $e = 12$.

$$c - 2d = e$$



VF

Find Pairs of Values 2

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5a. Which pair of values does not satisfy the equation?

$$a \div b = 9$$

$$a = 72$$

$$b = 8$$

$$a = 94$$

$$b = 11$$

$$a = 54$$

$$b = 6$$



VF

5b. Which pair of values does not satisfy the equation?

$$h \times i = 144$$

$$h = 24$$

$$i = 6$$

$$h = 18$$

$$i = 8$$

$$h = 15$$

$$i = 11$$



VF

6a. Use the numbers in the table to find all the possible combinations for the two variables below.

$$x - y = 33$$

72	61	12	56
45	23	28	39



VF

6b. Use the numbers in the table to find all the possible combinations for the two variables below.

$$j + k = 41$$

9	23	13	16
28	18	25	32



VF

7a. Work out the values of b and c .

$$a = 12$$

$$a + b = 20$$

$$c + b = 35$$

$$b = \square \quad c = \square$$



VF

7b. Work out the values of a and c .

$$b = 4$$

$$b \times a = 32$$

$$c - b = 23$$

$$a = \square \quad c = \square$$



VF

8a. List three possible values for a and b , where $c = 75$.

$$5a + b = c$$



VF

8b. List three possible values for c and d , where $e = 56$.

$$3c - d = e$$



VF

Find Pairs of Values 2

9a. Which pair of values does not satisfy the equation?

$$2a \div b = 24\frac{1}{4}$$

$$a = 48.5$$

$$b = 4$$

$$a = 64$$

$$b = 6$$

$$a = 97$$

$$b = 8$$



VF

Find Pairs of Values 2

9b. Which pair of values does not satisfy the equation?

$$2h \times \frac{1}{2}i = 60$$

$$h = 15$$

$$i = 8$$

$$h = 10$$

$$i = 6$$

$$h = 12$$

$$i = 5$$



VF

10a. Use the numbers in the table to find all the possible combinations for the two variables below.

$$x - y = -5.5$$

10	1	12	0.5
-4.5	6	6.5	4.5



VF

10b. Use the numbers in the table to find all the possible combinations for the two variables below.

$$2j + k = 22.5$$

11	0.5	9	6.5
2.5	10	4.5	8



VF

11a. Work out the values of v and y .

$$x = 12.5$$

$$x + y = 28$$

$$v + y = 20.5$$

$$y = \boxed{} \quad v = \boxed{}$$



VF

11b. Work out the values of s and r .

$$t = 0.5$$

$$t \times s = 4$$

$$t - r = -6.5$$

$$s = \boxed{} \quad r = \boxed{}$$



VF

12a. List three possible values for a and b , where $c = 25$.

$$3a + 2b = c$$



VF

12b. List three possible values for c and d , where $e = 3$.

$$2c - 2d = e$$



VF

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Find Pairs of Values 2

Developing

- 1a. $a = 16$ and $b = 4$
2a. 19 and 14; 15 and 10; 12 and 7; 8 and 3
3a. $b = 9$ and $c = 4$
4a. Various answers, for example: if $a = 9$, then $b = 0$; if $a = 8$, then $b = 2$; if $a = 7$, then $b = 4$.

Expected

- 5a. $a = 94$ and $b = 11$
6a. 45 and 12; 61 and 28; 56 and 23; 72 and 39
7a. $b = 8$ and $c = 27$
8a. Various answers, for example: if $a = 12$, then $b = 15$; if $a = 10$, then $b = 25$; if $a = 8$, then $b = 35$.

Greater Depth

- 9a. $a = 64$ and $b = 6$
10a. 4.5 and 10; 0.5 and 6; 6.5 and 12; -4.5 and 1
11a. $y = 15.5$ and $v = 5$
12a. Various answers, for example: if $a = 8$, then $b = 0.5$; if $a = 6$, then $b = 3.5$; if $a = 4$, then $b = 6.5$.

Varied Fluency
Find Pairs of Values 2

Developing

- 1b. $h = 5$ and $i = 6$
2b. 10 and 8; 12 and 6; 14 and 4; 17 and 1
3b. $a = 2$ and $c = 15$
4b. Various answers, for example: if $c = 14$, then $d = 1$; if $c = 16$, then $d = 2$; if $c = 18$, then $d = 3$.

Expected

- 5b. $h = 15$ and $i = 11$
6b. 23 and 18; 25 and 16; 28 and 13; 32 and 9
7b. $a = 8$ and $c = 27$
8b. Various answers, for example: if $c = 19$, then $d = 1$; if $c = 20$, then $d = 4$; if $c = 21$, then $d = 7$.

Greater Depth

- 9b. $h = 15$ and $i = 8$
10b. 11 and 0.5; 10 and 2.5; 9 and 4.5; 8 and 6.5
11b. $s = 8$ and $r = 7$
12b. Various answers, for example: if $c = 13$, then $d = 11.5$; if $c = 10$, then $d = 8.5$; if $c = 8$, then $d = 6.5$.