

Predict a Total Part 2

A student is given a table
and they select any number
and circle that number

13	16	17	18
7	10	11	12
10	13	14	15
16	19	20	21

they cross out the rest
of the numbers in the
that row and column

13	16	17	18
7	10	11	12
10	13	14	15
16	19	20	21

they select another number,
circle that number and cross
out the rest of the row and column

13	16	17	18
7	10	11	12
10	13	14	15
16	19	20	21

and they continue until
all the numbers have been
circled or crossed out

13	16	17	18
7	10	11	12
10	13	14	15
16	19	20	21

you can predict the total before they start

I wonder how it works.



A Magic Classroom

Help Create a World of Wonder

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Predict The Total Part 2

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1. Predict the Total for Integers parts 1 , 2 and 3

Classroom activity pages with 4 row tables containing integer values

2. Predict the Total for polynomial expressions parts 1 , 2 and 3

Classroom activity pages with 4 row tables containing polynomial expressions

3. How to make you own cards

An explanation of how to make the tables.

A worksheet for the student to use to make their own and 5 by 5 tables.

6. Solutions to all activities.

Predict The Total

- Select any integer in any square and circle it. Cross out all the other integers in the SAME ROW and all the other numbers in the SAME COLUMN as the number that you just circled.

-1	-5	4	-9
-4	-8	4	-12
5	4	10	15
-2	-6	-3	0

For example, lets say you pick 10.

Circle 10.

Now cross out all the other numbers in the same ROW that 10 is in.

Now cross out all the other numbers in the same COLUMN that 10 is in.

- Select a number from the remaining ones and circle it. Cross out all the other numbers in the SAME ROW and all the other numbers in the SAME COLUMN as the number that you just circled.

-1	-5	4	-9
-4	-8	4	-12
5	4	10	15
-2	-6	-3	0

For example, lets say you pick -12.

Circle -12.

Now cross out all the other numbers in the same ROW that -12 is in.

Now cross out all the other numbers in the same COLUMN that -12 is in.

- Select a number from the remaining ones and circle it. Cross out all the other numbers in the SAME ROW and all the other numbers in the SAME COLUMN as the number that you just circled.

-1	5	4	-9
-4	-8	4	-12
5	4	10	15
-2	-6	-3	0

For example, lets say you pick -6.

Circle -6.

Now cross out all the other numbers in the same ROW that -6 is in.

Now cross out all the other numbers in the same COLUMN that -6 is in.

- There is only one number remaining that has not been crossed out or circled. It is -1. Circle that number.

-1	5	4	-9
-4	-8	4	-12
5	4	10	15
-2	-6	-3	0

Combine of the 4 Integers you circled.

Is the sum of the 4 circled integers -9?

Will the total be - 9 every time?

Predict the Total for Integers Part 1

Directions:

1. Select any integer and circle it. Cross out all the other integers in the SAME ROW and all the other integers in the THE SAME COLUMN as the integer you circled.
2. Pick one of the remaining integers and circle it. Cross out all the other integers in the SAME ROW and all the other integers in the THE SAME COLUMN as the integer you just circled.
3. Pick one of the remaining integers and circle it. Cross out all the other integers in the SAME ROW and all the other expressions in the THE SAME COLUMN as the integer you just circled.
4. There is only one integer remaining that has not been crossed out or circled. Circle that integer.
5. List the 4 integers you circled WITH THEIR SIGNS on the line to the right of the grid.

Find the total of the 4 integers.

Try this with the integers below

-1	7	9	-2
-9	-1	1	-10
3	11	13	2
-4	4	6	-5

write the 4 integers with their signs in the
order you selected them on this line
and then combine the integers

total

Try it again but start with a different first integer.

-1	7	9	-2
-9	-1	1	-10
3	11	13	2
-4	4	6	-5

write the 4 integers with their signs in the
order you selected them on this line
and then combine the integers

total

Was your total 6?

Predict the Total for Integers Part 2

Directions:

1. Select any integer and circle it. Cross out all the other integers in the SAME ROW and all the other integers in the THE SAME COLUMN as the integer you circled.
2. Pick one of the remaining integers and circle it. Cross out all the other integers in the SAME ROW and all the other integers in the THE SAME COLUMN as the integer you just circled.
3. Pick one of the remaining integers and circle it. Cross out all the other integers in the SAME ROW and all the other integers in the THE SAME COLUMN as the integer you just circled.
4. There is only one integer remaining that has not been crossed out or circled. Circle that integer.
5. List the 4 integers you circled WITH THEIR SIGNS on the line to the right of the grid.

Find the total of the 4 integers.

Try this with the integers below

-15	-6	-11	-4
2	11	6	13
-12	-3	-8	-1
-6	3	-2	5

write the 4 integers with their signs in the order you selected them on this line and then combine the integers

total

Try it again but start with a different first integer.

-15	-6	-11	-4
2	11	6	13
-12	-3	-8	-1
-6	3	-2	5

write the 4 integers with their signs in the order you selected them on this line and then combine the integers

total

Was your total -7 ?

Predict the Total for Integers Part 3

Directions:

1. Select any integer and circle it. **Cross out** all the other integers in the SAME ROW and COLUMN as the integer you circled.
2. Continue this process until you have 4 integers circled.
3. List the 4 circled integers WITH THEIR SIGNS on the line below the grid.

Find the total of the 4 integers.

Table 1

-6	-5	5	-7
-9	-8	2	-10
2	3	13	1
-4	-3	7	-5

_____ = _____
Total

Table 2

6	7	-6	8
15	2	3	17
2	-11	-10	4
7	-6	-5	9

_____ = _____
Total

Table 3

-8	1	-6	2
-3	5	-1	7
-11	-2	-9	-1
-13	-4	-11	-3

_____ = _____
Total

Table 4

-13	6	-14	-2
-2	17	-3	9
-17	2	-18	-6
-16	3	17	-5

_____ = _____
Total

Predict a Polynomial Expression Part 1

Directions:

1. Select any expression and circle it. Cross out all the other expression in the SAME ROW and all the other expressions in the THE SAME COLUMN as the expression you circled.
2. Pick one of the remaining expressions and circle it. Cross out all the other expressions in the SAME ROW and all the other expressions in the THE SAME COLUMN as the expression you just circled.
3. Pick one of the remaining expressions and circle it. Cross out all the other expressions in the SAME ROW and all the other expressions in the THE SAME COLUMN as the expression you just circled.
4. There is only one expressions remaining that has not been crossed out or circled. Circle that expression.
5. List the 4 expressions you circled WITH THEIR SIGNS on the line to the right of the grid.

Simplify the expression by combining like terms.

Try this with the expressions below.

$+2x + 3$	$+9$	$+x + 7$	$+5x + 5$
$+3x + 1$	$+x + 7$	$+2x + 5$	$+6x + 3$
$+4x + 1$	$+2x + 7$	$+3x + 5$	$+7x + 3$
$+3x$	$+x + 6$	$+2x + 4$	$+6x + 2$

write the 4 expressions with their signs on this line
and then combine the like terms to simplify the expression

simplified expression

Try it again but start with a different first expression.

$+2x + 3$	$+9$	$+x + 7$	$+5x + 5$
$+3x + 1$	$+x + 7$	$+2x + 5$	$+6x + 3$
$+4x + 1$	$+2x + 7$	$+3x + 5$	$+7x + 3$
$+3x$	$+x + 6$	$+2x + 4$	$+6x + 2$

write the 4 expressions with their signs on this line
and then combine the like terms to simplify the expression

simplified expression

Was your simplified polynomial $12x + 17$?

Predict a Polynomial Expression Part 2

Directions:

1. Select any expression and circle it. Cross out all the other expression in the SAME ROW and all the other expressions in the THE SAME COLUMN as the expression you circled.
2. Pick one of the remaining expressions and circle it. Cross out all the other expressions in the SAME ROW and all the other expressions in the THE SAME COLUMN as the expression you just circled.
3. Pick one of the remaining expressions and circle it. Cross out all the other expressions in the SAME ROW and all the other expressions in the THE SAME COLUMN as the expression you just circled.
4. There is only one expressions remaining that has not been crossed out or circled. Circle that expression.
5. List the 4 expressions you circled WITH THEIR SIGNS the line to the right of the grid.

Simplify the expression by combining like terms.

Try this with the expressions below

$+4x - 2$	$-x$	$+2$	$+x - 3$
$+6x + 1$	$+x + 3$	$+2x + 5$	$+3x$
$+5x - 3$	-1	$+x + 1$	$+2x - 4$
$-x + 2$	$-6x + 4$	$-5x + 6$	$-4x + 1$

write the 4 expressions with their signs on this line
and then combine the like terms to simplify the expression

simplified expression

Try it again but start with a different first expression.

$+4x - 2$	$-x$	$+2$	$+x - 3$
$+6x + 1$	$+x + 3$	$+2x + 5$	$+3x$
$+5x - 3$	-1	$+x + 1$	$+2x - 4$
$-x + 2$	$-6x + 4$	$-5x + 6$	$-4x + 1$

write the 4 expressions with their signs on this line
and then combine the like terms to simplify the expression

simplified expression

Was your simplified polynomial $2x + 3$?

Predict a Polynomial Expression Part 3

Directions:

1. Select any expression and circle it. **Cross out** all the other expressions in the SAME ROW and COLUMN as the expression you circled. Continue this process until you have 4 expressions circled.
3. List the 4 circled expressions WITH THEIR SIGNS on the line beside the grid.

Find the total of the 4 expressions.

Try this for each of the 3 tables below.

Table 1

$+2x - 3$	$+6x - 4$	$+5x - 2$	$+4x - 7$
$+ 3$	$+4x + 2$	$+3x + 4$	$2x - 1$
$+x - 1$	$5x - 2$	$+4x$	$+3x - 5$
$- 2$	$4x - 3$	$3x - 1$	$+2x - 6$

write the 4 expressions with their signs on this line
and then combine the like terms to simplify the expression

simplified expression

Table 2

$-2x - 3$	$+2x - 1$	$+x + 4$	$- 4$
$-6x - 2$	$- 2x$	$-3x + 5$	$-4x - 3$
$-3x - 1$	$+x + 1$	$+ 6$	$-x - 2$
$- 7$	$+4x - 5$	$+3x$	$+2x - 8$

write the 4 expressions with their signs on this line
and then combine the like terms to simplify the expression

simplified expression

Table 3

$+ 14$	$+2x + 3$	$-3x + 7$	$-5x + 4$
$-4x + 8$	$- 2x - 3$	$-7x + 1$	$-9x - 2$
$-x + 9$	$+x - 2$	$-4x + 2$	$-6x - 1$
$2x + 3$	$+4x - 8$	$-x - 4$	$-3x - 7$

write the 4 expressions with their signs on this line
and then combine the like terms to simplify the expression

simplified expression

How to make your own cards

These cards are disguised addition tables that students are already familiar with.

Step 1:

Pick 4 numbers to put in the 4 vertical boxes on the left.

3				
1				
4				
2				

Step 2:

Pick 4 numbers to put in the 4 horizontal boxes on the top.

	7	5	8	6
1				
2				
3				
4				

Step 3 :

Add the numbers that are in the row and column of each box in the table

	7	5	8	6
3	3+7	3+5	3+8	3+6
1	1+7	1+5	1+8	1+6
4	4+7	4+5	4+8	4+6
2	2+7	2+5	2+8	2+6

Step 4:

Take away the top and side columns and you puzzle is ready to use

10	8	11	9
8	6	9	7
11	9	12	10
9	7	10	8

The Predict a Total number is 36

The Predict a Total number
for the table above is

$$3 + 1 + 4 + 2 + 7 + 5 + 8 + 6 = 36$$

Add →

7	5	8	6
---	---	---	---

3
1
4
2

The Predict a Total number for the table is the sum of the 4 numbers in the top row above the table added to the sum of the 4 numbers in the row to the left of the table .

Make your own 4 by 4 table

- Select 4 numbers to put in each box in the top row above the table and 4 numbers to put in each box in the column to the left of the table. Complete the addition table to find the numbers for each box in the table. Add the numbers in the extra row above the table and the extra column to the left to find the Predict a Number total for the table. When the table is complete, cut out the main table and the puzzle is ready to use. Try it out on your parents or fellow students who have not seen the puzzle.

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→

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The Predict a Total number for the table is the sum of the 4 numbers in the top row above the table added to the sum of the 4 numbers in the row to the left of the table .

Make your own 5 by 5 table

- Select 5 numbers to put in each box in the top row above the table and 5 numbers to put in each box in the column to the left of the table. Complete the addition table to find the numbers for each box in the table. Add the numbers in the extra row above the table and the extra column to the left to find the Predict a Number total for the table. When the table is complete, cut out the main table and the puzzle is ready to use. Try it out on your parents or fellow students who have not seen the puzzle.

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Add	→				
-----	---	--	--	--	--

The Predict a Total number for the table is the sum of the 5 numbers in the top row above the table added to the sum of the 5 numbers in the row to the left of the table .

Solutions

Integers part 1

	-3	5	7	-4
2	-1	7	9	-2
-6	-9	-1	1	-10
6	3	11	13	2
-1	-4	4	6	-5

Total 6

Integers part 2

	-7	2	-3	4
-8	-15	-6	-11	-4
9	2	11	6	13
-5	-12	-3	-8	-1
1	-6	3	-2	5

Total -7

Integers Part 3

Table 1

	-3	-2	8	-4
-3	-6	-5	5	-7
-6	-9	-8	2	-10
5	2	3	13	1
-1	-4	-3	7	-5

Total -6

Integers Part 3

Table 2

	8	-5	-4	10
-2	6	7	-6	8
7	15	2	3	17
-6	2	-1 1	-1 0	4
-1	7	-6	-5	9

Total 7

Integers Part 3

Table 3

	-7	2	-5	3
-1	-8	1	-6	2
4	-3	5	-1	7
-4	-11	-2	-9	-1
-6	-13	-4	-11	-3

Total -14

Integers Part 3

Table 4

	-7	12	-8	4
-6	-13	6	-14	-2
5	-2	17	-3	9
-10	-17	2	-18	-6
-9	-16	3	17	-5

Total -19

Polynomial Expressions Part 1

	$2x$	6	$x + 4$	$5x + 2$
3	$+2x + 3$	$+9$	$+x + 7$	$+5x + 5$
$x + 1$	$+3x + 1$	$+x + 7$	$+2x + 5$	$+6x + 3$
$2x + 1$	$+4x + 1$	$+2x + 7$	$+3x + 5$	$+7x + 3$
x	$+3x$	$+x + 6$	$+2x + 4$	$+6x + 2$

$$12x + 17$$

Polynomial Expressions Part 2

	$3x - 2$	$-2x$	$-x + 2$	-3
x	$+4x - 2$	$-x$	$+2$	$+x - 3$
$3x + 3$	$+6x + 1$	$+x + 3$	$+2x + 5$	$+3x$
$2x - 1$	$+5x - 3$	-1	$+x + 1$	$+2x - 4$
$-4x + 4$	$-x + 2$	$-6x + 4$	$-5x + 6$	$-4x + 1$

$$2x + 3$$

Predict a Polynomial Expression Part 3

Table 1

	$-x$	$3x - 1$	$2x + 1$	$x - 4$
$3x - 3$	$+2x - 3$	$+6x - 4$	$+5x - 2$	$+4x - 7$
$x + 3$	$+ 3$	$+4x + 2$	$+3x + 4$	$2x - 1$
$2x - 1$	$+x - 1$	$5x - 2$	$+4x$	$+3x - 5$
$x - 2$	$- 2$	$4x - 3$	$3x - 1$	$+2x - 6$

$12x - 7$

Table 2

	$-x - 4$	$3x - 2$	$2x + 3$	$x - 5$
$-x + 1$	$-2x - 3$	$+2x - 1$	$+x + 4$	$- 4$
$-5x + 2$	$-6x - 2$	$- 2x$	$-3x + 5$	$-4x - 3$
$-2x + 3$	$-3x - 1$	$+x + 1$	$+ 6$	$-x - 2$
$x - 3$	$- 7$	$+4x - 5$	$+3x$	$+2x - 8$

$-2x - 5$

Table 3

	$x + 6$	$3x - 5$	$-2x - 1$	$-4x - 4$
$-x + 8$	$+ 14$	$+2x + 3$	$-3x + 7$	$-5x + 4$
$-5x + 2$	$-4x + 8$	$- 2x - 3$	$-7x + 1$	$-9x - 2$
$-2x + 3$	$-x + 9$	$+x - 2$	$-4x + 2$	$-6x - 1$
$x - 3$	$2x + 3$	$+4x - 8$	$-x - 4$	$-3x - 7$

$-9x + 6$