

Math Tool: Properties of Multiplication

Associative Property of Multiplication

The grouping of the factors does not change the product.

$$(2 \times 5) \times 4 = 2 \times (5 \times 4)$$

$$10 \times 4 = 2 \times 20$$

$$40 = 40$$

$$(1 \times 5) \times 6 = 1 \times (5 \times 6)$$

$$5 \times 6 = 1 \times 30$$

$$30 = 30$$

Commutative Property of Multiplication

The order of the factors does not change the product.

$$5 \times 6 = 6 \times 5$$

$$30 = 30$$

$$4 \times 9 = 9 \times 4$$

$$36 = 36$$

Identity Property of 1

Any number multiplied by 1 is that number.

$$8 \times 1 = 8$$

$$1 \times 10 = 10$$

Distributive Property of Multiplication

Multiplying the sum of two numbers by a factor is the same as multiplying each addend by the factor and adding the products.

$$8 \times 9 = 8 \times (5 + 4)$$

$$= (8 \times 5) + (8 \times 4)$$

$$= 40 + 32$$

$$= 72$$

$$8 \times 9 = 72$$

Math Tool: Addition Table

+	0	1	2	3	4	5	6	7	8	9	10
0	0	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10	11
2	2	3	4	5	6	7	8	9	10	11	12
3	3	4	5	6	7	8	9	10	11	12	13
4	4	5	6	7	8	9	10	11	12	13	14
5	5	6	7	8	9	10	11	12	13	14	15
6	6	7	8	9	10	11	12	13	14	15	16
7	7	8	9	10	11	12	13	14	15	16	17
8	8	9	10	11	12	13	14	15	16	17	18
9	9	10	11	12	13	14	15	16	17	18	19
10	10	11	12	13	14	15	16	17	18	19	20

Math Tool: Multiplication Table

×	0	1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10
2	0	2	4	6	8	10	12	14	16	18	20
3	0	3	6	9	12	15	18	21	24	27	30
4	0	4	8	12	16	20	24	28	32	36	40
5	0	5	10	15	20	25	30	35	40	45	50
6	0	6	12	18	24	30	36	42	48	54	60
7	0	7	14	21	28	35	42	49	56	63	70
8	0	8	16	24	32	40	48	56	64	72	80
9	0	9	18	27	36	45	54	63	72	81	90
10	0	10	20	30	40	50	60	70	80	90	100

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Math Tool: Place-Value Tables

O	
T	
H	

+

O	
T	
H	

-

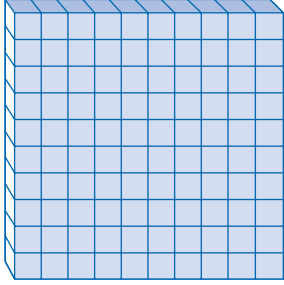


























































































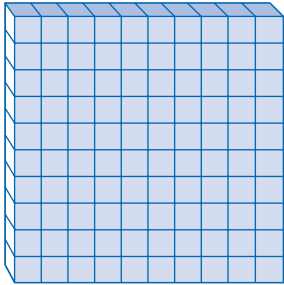












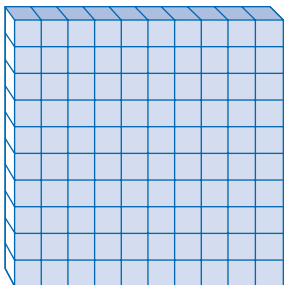












O	
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Math Tool: Place-Value Models

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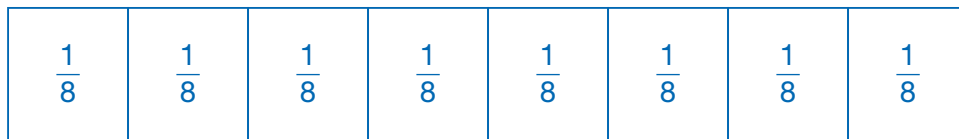
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Math Tool: Number Lines



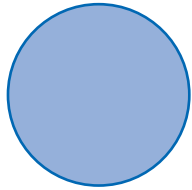
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Math Tool: Fraction Strips

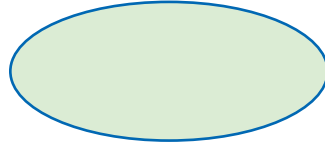


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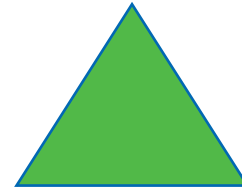
Math Tool: Two-Dimensional Shapes



circle
0 sides
0 angles



oval
0 sides
0 angles



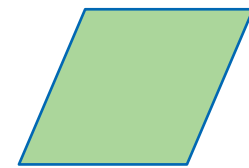
triangle
3 sides
3 angles



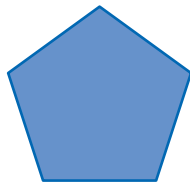
square
4 equal sides
4 right angles



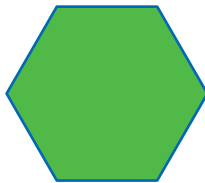
rectangle
4 sides
4 right angles



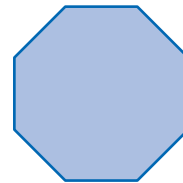
rhombus
4 equal sides
4 angles



pentagon
5 sides
5 angles



hexagon
6 sides
6 angles



octagon
8 sides
8 angles

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