

20.

9th

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
29	30					

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1-2 Variables, Expressions Properties

Vocabulary

Variable - a symbol (usually a letter) used to represent a number.

$4n$
Variable

expression - contains a variable, a number, and at least one operation (+, -, ×, ÷).

$4n = 4$ times variable n .

Numerical expression - when you substitute a number for a variable then solve.

$4n$
 $n = 10$
 $4(10) = 40$

evaluate - what is the answer? evaluate the answer.

order of operations (x + +)

P parenthesis
E exponent
M or D multiply or divide
A or S add or subtract

left to right!

Please excuse my dear aunt Sally.

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a.) $(9+6) \div 5 \times 4 + (3-2)$

$15 \div 5 \times 4 + 1$

$3 \times 4 + 1$

$12 + 1$

13

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$2 + 3 \times (18 - 7)$

$2 + 3 \cdot 11$

$2 + 33$

35

$2 + 3(18 - 7)$

$2 + 3(11)$

$2 + 33$

35

P
E
M or D
A or S

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Multiply

$8 \cdot 5$ $3(2)$ $4n$ xy

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$4a - 3b + 1$

$4(5) - 3(4) + 1$

$20 - 12 + 1$

$8 + 1$

9

$a = 5$
 $b = 4$

Substitute (replace the variable)

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$$\frac{c^2}{a-3}$$

$a=5$
 $b=4$
 $c=8$

$$\frac{8^2}{5-3} = \frac{64}{2} = 32$$

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equation
equal

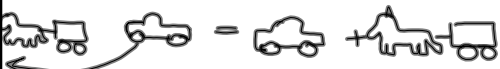
- contains an equal sign
- can be solved

$$4n = 12$$

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Properties

Commutative
commute



$$3+4 = 4+3$$

7 = 7

5 · 6 = 6 · 5

30 = 30

order does not matter

commutative prop. of addition

commutative prop. of multiplication

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Associative -
associate

$$2+(3+8) = (2+3)+8$$

2 + 11 = 5 + 8

13 = 13

3 · (4 · 5) = (3 · 4) · 5

3 · 20 = 12 · 5

60 = 60

who do you associate with?

parenthesis

assoc. prop. of addition

assoc. prop. of multiplication

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Distributive

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