

Curriculum Outcome

N1: Demonstrate an understanding of rational numbers by: comparing and ordering rational numbers; solving problems that involve arithmetic operations on rational numbers.

Student Friendly:

Review of
BEDMAS



Grade 9 Warm Up



1) A pizza cost \$25.98. If 7 people are sharing the cost, what was the cost for each person?

$$25.98 \div 7 \quad \div$$
$$= 3.72$$

B	E	DM	AS
R a c k e t s	x p o n e n t s	i v i s i o n	u l t i p l i c a t i o n
			d d i t i o n
			u b t r a c t i o n

How to work with exponents

$$(2)^4 = 2 \times 2 \times 2 \times 2$$
$$= 16$$

$$(-3)^5 = (-3)(-3)(-3)(-3)(-3)$$
$$= -243$$

Calculator Use

Use x^y or y^x or $^$ or x^\square for exponents on calculators

$$(3)^2$$

$$= 9$$

$$(-4)^2$$


$$= 16$$

$$(-4)^3$$

$$= -64$$

Section 3.5 z

Order of Operations with Rational Numbers



Remember from operations

"BEDMAS"order of

v

v

In the order that they appear

Recall
Evaluate the following

- 1) $(-5) - 3[18 \div (-3)]^2$

$$= (-5) - 3[-6]^2$$

$$= (-5) - 3[36]$$

$$= (-5) - [108]$$

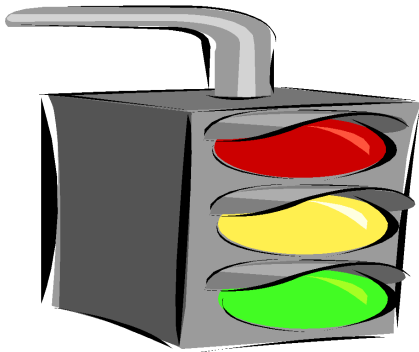
$$= -113$$

Do we need more practice?



$$\begin{aligned} 1) & 3 - [(-5) + 1]^3 \\ &= 3 - [-4]^3 \\ &= 3 - [-64] \\ &= 67 \end{aligned}$$

$$\begin{aligned} 2) & [(-3 + 5)^2 + 6(-2) + 7(3)]^2 \\ &= [(2)^2 + 6(-2) + 7(3)]^2 \\ &= [(4) + 6(-2) + 7(3)]^2 \\ &= [(4) + (-12) + 21]^2 \\ &= [-8 + 21]^2 \\ &= [13]^2 \\ &= 169 \end{aligned}$$



Worksheets

Try all the **EVEN** numbers on **all 3** worksheets

- must show work since final answers are given

Sheet 1	
Name : _____	Score : _____
Teacher : _____	Date : _____
Order of Operations	
1) $(31 - 3) \div 7 + 4^2$	6) $(41 - 3^2) \div (18 - 2)$
2) $7 \times (13 - 3) - 2^2$	7) $5 \times (10 - 6) + 7^2$
3) $(51 - 3) \div 2 - 5^2$	8) $(12 \times 5 + 5^2) + 4$
4) $(6 + 3)^2 + (12 \div 3)$	9) $(39 - 3^2) \div (-1 + 4)$
5) $(7 + 2)^2 + (20 \div 10)$	10) $(12 \times 7 - 5^2) + 3$

Sheet 1: Answers**Order of Operations**

- | | |
|--------------------------------|--------------------------------|
| 1) $(31 - 3) \div 7 + 4^2$ | 6) $(41 - 3^2) \div (18 - 2)$ |
| 20 | 2 |
| 2) $7 \times (13 - 3) - 2^2$ | 7) $5 \times (10 - 6) + 7^2$ |
| 66 | 69 |
| 3) $(51 - 3) \div 2 - 5^2$ | 8) $(12 \times 5 + 5^2) + 4$ |
| -1 | 89 |
| 4) $(6 + 3)^2 + (12 \div 3)$ | 9) $(39 - 3^2) \div (-1 + 4)$ |
| 85 | 10 |
| 5) $(7 + 2)^2 + (20 \div 10)$ | 10) $(12 \times 7 - 5^2) + 3$ |
| 83 | 62 |

Sheet 2

Name : _____ Score : _____
 Teacher : _____ Date : _____

Order of Operations

- | | |
|---|--|
| 1) $(15 + 61 - 6^2) \div (13 - 3)$ | 6) $(12 + 24 - 2^2) \div (8 - 4)$ |
| 2) $(7 + 2)^2 + (13 - 12 \div 6)$ | 7) $6 \times (13 \times 6 - 3^2) - 9$ |
| 3) $(10 + 3) \times (12 + 4) - 6^2$ | 8) $(10 - 4)^2 + (14 + 8 \div 4)$ |
| 4) $8 \times (12 \times 5 - 9^2) + 10$ | 9) $(13 + 30 - 3) \div 10 - 4^2$ |
| 5) $(11 + 27 - 2) \div 3 + 6^2$ | 10) $(10 - 6) \times (13 + 5) - 7^2$ |

Sheet 2: Answers**Order of Operations**

- | | |
|---|---|
| 1) $(15 + 61 - 6^2) \div (13 - 3)$
4 | 6) $(12 + 24 - 2^2) \div (8 - 4)$
8 |
| 2) $(7 + 2)^2 + (13 - 12 \div 6)$
92 | 7) $6 \times (13 \times 6 - 3^2) - 9$
405 |
| 3) $(10 + 3) \times (12 + 4) - 6^2$
172 | 8) $(10 - 4)^2 + (14 + 8 \div 4)$
52 |
| 4) $8 \times (12 \times 5 - 9^2) + 10$
-158 | 9) $(13 + 30 - 3) \div 10 - 4^2$
-12 |
| 5) $(11 + 27 - 2) \div 3 + 6^2$
48 | 10) $(10 - 6) \times (13 + 5) - 7^2$
23 |





Sheet 3

Name : _____ Score : _____
 Teacher : _____ Date : _____

Order of Operations

<p>1) $3 + (9 + (6 + 5)^2)$</p> <p>2) $(5^2 + (12 \div 6 + 3^2))$</p> <p>3) $((15 - 6) - (16 \div 2)^2)$</p> <p>4) $(6^2 + (14 \div 2 + 3^2))$</p> <p>5) $((3 + 3)^2 + 6) + 8^2$</p>	<p>6) $10 + ((16 \div 3) + 6^2)$</p> <p>7) $((15 + 5) + (20 \div 10)^2)$</p> <p>8) $((4 + 2)^2 \times 3) - 2^2$</p> <p>9) $15 + ((18 - 7) + 5^2)$</p> <p>10) $19 + (4 + (5 + 4)^2)$</p>
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Sheet 3: Answers

Order of Operations

<p>1) $3 + (9 + (6 + 5)^2)$</p> <p style="text-align: center;">133</p> <p>2) $(5^2 + (12 \div 6 + 3^2))$</p> <p style="text-align: center;">36</p> <p>3) $((15 - 6) - (16 \div 2)^2)$</p> <p style="text-align: center;">-55</p> <p>4) $(6^2 + (14 \div 2 + 3^2))$</p> <p style="text-align: center;">52</p> <p>5) $((3 + 3)^2 + 6) + 8^2$</p> <p style="text-align: center;">106</p>	<p>6) $10 + ((16 \div 3) + 6^2)$</p> <p style="text-align: center;">65</p> <p>7) $((15 + 5) + (20 \div 10)^2)$</p> <p style="text-align: center;">24</p> <p>8) $((4 + 2)^2 \times 3) - 2^2$</p> <p style="text-align: center;">104</p> <p>9) $15 + ((18 - 7) + 5^2)$</p> <p style="text-align: center;">51</p> <p>10) $19 + (4 + (5 + 4)^2)$</p> <p style="text-align: center;">104</p>
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