

Number Sense and Fluency (Pre-Algebra) Review Packet

Exponents

Rewrite in expanded form:

1.  $23^7$

$23 \times 23 \times 23 \times 23 \times 23 \times 23 \times 23$

2)  $3^8$

$3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3$

3)  $5^9$

$5 \times 5 \times 5 \times 5 \times 5 \times 5 \times 5 \times 5 \times 5$

4)  $18^4$

$18 \times 18 \times 18 \times 18$

Rewrite in exponent form:

1.  $4 \times 4 \times 4 \times 4 \times 4 \times 4 \times 4$

$4^7$

2.  $22 \times 22 \times 22 \times 22 \times 22$

$22^5$

3.  $9 \times 9 \times 9 \times 9$

$9^4$

4.  $17 \times 17 \times 17 \times 17 \times 17$

$17^5$

Rewrite in standard form:

1.  $1^{10} = 1$

2.  $11^3 = 1,331$

3.  $2^4 = 16$

4.  $13^2 = 169$

## Order of Operations



1.  $3 \times 5 \times (6 - 3)$

$$\begin{array}{r} 3 \times 5 \times 3 \\ \hline 15 \times 3 \\ \hline 45 \end{array}$$

2.  $12 \div 4 \times 2 - 5$

$$\begin{array}{r} 3 \times 2 - 5 \\ \hline 6 - 5 \\ \hline 1 \end{array}$$

3.  $(21 - 8)^2 \times 36 \div 9$

$$\begin{array}{r} 13^2 \times 36 \div 9 \\ \hline 169 \times 36 \div 9 \\ \hline 6,084 \div 9 \\ \hline 676 \end{array}$$

4.  $(100 \div 5^2) + 10 + 5$

$$\begin{array}{r} (100 \div 25) + 10 + 5 \\ \hline 4 + 10 + 5 \\ \hline 14 + 5 \\ \hline 19 \end{array}$$

5.  $(8 + 34 - 6) \div 12$

$$\begin{array}{r} (42 - 6) \div 12 \\ \hline 36 \div 12 \\ \hline 3 \end{array}$$

6.  $(10 \times 1^5) + (16 \div 2^3 \times 2)^2$

$$\begin{array}{r} (10 \times 1) + (16 \div 2^3 \times 2)^2 \\ 10 + (16 \div 2^3 \times 2)^2 \\ 10 + (16 \div 8 \times 2)^2 \\ 10 + (2 \times 2)^2 \\ 10 + 4^2 \\ 10 + 16 \\ \hline 26 \end{array}$$

### Patterns

Complete the next three numbers in the numerical series.

1. 18, 23, 20, 25, 22, 27, 24, 29, 26, 31  
 $+5$   $-3$   $+5$   $-3$   $+5$   $-3$   $+5$   $-3$   $+5$

2. 2, 9, 16, 23, 30, 37, 44, 51, 58, 65  
 $+7$   $+7$   $+7$   $+7$   $+7$   $+7$   $+7$   $+7$   $+7$

3. 5, 10, 7, 14, 21, 42, 49, 98, 105, 210  
 $\times 2$   $+7$   $\times 2$   $+7$   $\times 2$   $+7$   $\times 2$   $+7$   $\times 2$

4. 40, 20, 24, 12, 16, 8, 12, 6, 10, 5  
 $\div 2$   $+4$   $\div 2$   $+4$   $\div 2$   $+4$   $\div 2$   $+4$   $\div 2$

### Divisibility Rules

Use your divisibility rules sheet to complete the table. Fill in the table below using  $\checkmark$  or  $\times$ .

	2	3	4	5	6	8	9	10
$384 = 15$	$\checkmark$	$\checkmark$	$\checkmark$	$\times$	$\checkmark$	$\checkmark$	$\times$	$\times$
$6,564 = 21$	$\checkmark$	$\checkmark$	$\checkmark$	$\times$	$\checkmark$	$\times$	$\times$	$\times$
$9,720 = 18$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
$8,580 = 21$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\times$	$\times$	$\checkmark$
$13,457 = 20$	$\times$	$\times$	$\times$	$\times$	$\times$	$\times$	$\times$	$\times$