

St James Math Packet

Students entering 7th grade (Blue Group)

Summer Skills Sharpener

In an effort to spend less time reviewing in the beginning of the school year, this Math packet must be completed during summer vacation. It will be collected during the first week of school, and will be counted as one test grade for the First Quarter.

Multiply Whole Numbers

Name _____

Date _____

Multiply: 406×372

Long Way

$$\begin{array}{r} 372 \\ \times 406 \\ \hline 2232 \\ 0000 \\ +148800 \\ \hline 151,032 \end{array}$$

Short Way

$$\begin{array}{r} 372 \\ \times 406 \\ \hline 2232 \\ + 148800 \\ \hline 151,032 \end{array}$$

Use the **Distributive Property** to help find products of larger numbers.

$$\begin{aligned} 708 \times 35,147 &= (700 + 8) \times 35,147 \\ &= (700 \times 35,147) + (8 \times 35,147) \\ &= 24,602,900 + 281,176 \\ &= 24,884,076 \end{aligned}$$

Estimate by rounding. Then find each product.

1. $\begin{array}{r} 124 \\ \times 206 \\ \hline \end{array}$

2. $\begin{array}{r} 536 \\ \times 410 \\ \hline \end{array}$

3. $\begin{array}{r} 159 \\ \times 203 \\ \hline \end{array}$

4. $\begin{array}{r} 203 \\ \times 509 \\ \hline \end{array}$

5. $\begin{array}{r} 483 \\ \times 507 \\ \hline \end{array}$

6. $\begin{array}{r} 324 \\ \times 440 \\ \hline \end{array}$

7. $\begin{array}{r} 1970 \\ \times 3406 \\ \hline \end{array}$

8. $\begin{array}{r} 2790 \\ \times 601 \\ \hline \end{array}$

9. $404 \times 6487 =$ _____

10. $530 \times 3571 =$ _____

11. $670 \times 5909 =$ _____

12. $907 \times 7246 =$ _____

13. $5013 \times 1221 =$ _____

14. $1007 \times 4409 =$ _____

Use the **Distributive Property** to compute.

15. 430×821 _____ 16. 140×383 _____ 17. 260×3401 _____

18. 405×6743 _____ 19. $603 \times 72,468$ _____ 20. $380 \times 189,352$ _____

Problem Solving

21. A backhoe lifted 170 tons of dirt per day for 203 days. How many tons did it lift? _____

22. The Apple Fruit Market received 720 cases of apples. Each case held 107 apples. How many apples did the market receive? _____

Divide Whole Numbers

Name _____

Date _____

Divide: $282,426 \div 47$

Estimate.

$$300,000 \div 50 = 6000$$

Not enough hundreds or tens.
Write zeros in the quotient.

Divide.

$$\begin{array}{r}
 6009 \text{ R}3 \\
 47 \overline{)282,426} \\
 \underline{-282} \\
 0426 \\
 \underline{-423} \\
 3
 \end{array}$$

Check.

$$\begin{array}{r}
 6009 \\
 \times 47 \\
 \hline
 42063 \\
 +24036 \\
 \hline
 282423 \\
 + 3 \\
 \hline
 282426
 \end{array}$$

Estimate by using compatible numbers. Then find each quotient.

1. $2392 \div 64$

2. $9288 \div 43$

3. $2118 \div 72$

4. $3581 \div 25$

5. $58 \overline{)19,847}$

6. $212 \overline{)9598}$

7. $416 \overline{)12,896}$

8. $39 \overline{)19,773}$

9. $153 \overline{)154,071}$

10. $723 \overline{)385,622}$

Find the value of the variable.

11. $x = 29,481 \div 93$

12. $10,455 \div 17 = b$

13. $581,204 \div 26 = z$

14. $y = 725,625 \div 125$

15. $687,232 \div 208 = c$

16. $d = 601,555 \div 31$

Order of Operations

Name _____

Date _____

Order of Operations Rules:

- First compute operations within *grouping symbols*.
- Next simplify numbers with *exponents*.
- Then *multiply* or *divide* from left to right.
- Last *add* or *subtract* from left to right.

$$\begin{array}{r}
 (36 \div 3) \times 2 - 16 \div 4 + 10^2 \\
 \downarrow \qquad \qquad \qquad \downarrow \qquad \qquad \qquad \downarrow \\
 12 \times 2 - 16 \div 4 + 10^2 \\
 \downarrow \qquad \qquad \qquad \downarrow \qquad \qquad \qquad \downarrow \\
 12 \times 2 - 16 \div 4 + 100 \\
 \downarrow \qquad \qquad \qquad \downarrow \qquad \qquad \qquad \downarrow \\
 24 - 4 + 100 \\
 \downarrow \qquad \qquad \qquad \downarrow \\
 20 + 100 \\
 \downarrow \\
 120
 \end{array}$$

Write which operation is to be done first. Then compute.

1. $24 \div 6 - 2$

2. $50 - 5 \times 2^3$

3. $42 \div 6 + 1$

4. $8 + 2 \times 3$

Use the order of operations to compute.

5. $3 \times 6 - 1 + 4$

6. $16 \div 4 \times 3 - 6$

7. $12 \div 2 \div 6 + 3$

8. $11 - 1 \times 6 + 4^2$

9. $6 \times 5 + 10 \div 2$

10. $3^3 + 9 \div 3 + 5$

11. $8 + 5 \times 3 - 1$

12. $6 + 24 \div 8 \times 2$

Insert parentheses to make each number sentence true.

13. $245 \div 6^2 - 1 + 15 = 22$

14. $2 + 3 \times 6 + 4 \times 3 = 42$

15. $25 + 2^4 - 13 \times 2 = 31$

16. $14 + 6.6 \div 0.2 + 0.4 = 25$

Problem Solving Circle the letter of the correct mathematical expression to solve the problem. Then evaluate.

17. Sergei is saving to buy a bicycle. He saves \$15 a week from his job. His father gives him \$5 a week. After 8 weeks how much money has Sergei saved?

- a. $8 + \$15 \times 8 + \5
 b. $8 \times (\$15 + \$5)$
 c. $(8 \times \$15) + \5

All Operations with Integers (A)

Use an integer strategy to find each answer.

$$(-5) + (-4) =$$

$$(-4) \times (-7) =$$

$$(+6) - (-2) =$$

$$(-3) + (+1) =$$

$$(-18) \div (-6) =$$

$$(-1) \times (+5) =$$

$$(-2) \times (-7) =$$

$$(+8) \times (+3) =$$

$$(+9) + (-3) =$$

$$(+3) \times (-1) =$$

$$(-4) - (-1) =$$

$$(+6) + (-5) =$$

$$(-3) + (+9) =$$

$$(-5) \times (+3) =$$

$$(-3) \div (+3) =$$

$$(-3) \times (+3) =$$

$$(-3) + (-6) =$$

$$(+8) + (-9) =$$

$$(-5) \times (+5) =$$

$$(-8) - (+6) =$$

$$(-7) - (-3) =$$

$$(+1) - (-9) =$$

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

$$(-4) + (-5) =$$

$$(+8) - (-2) =$$

$$(-9) + (-4) =$$

$$(+6) \times (+3) =$$

$$(-7) - (+2) =$$

$$(+2) \times (-4) =$$

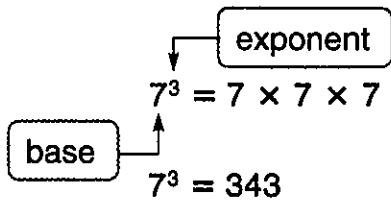
$$(+3) + (-8) =$$

Exponents

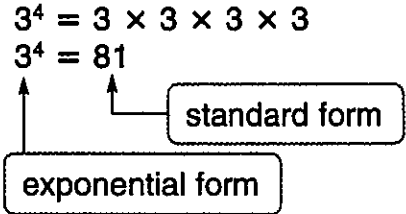
Name _____

Date _____

An *exponent* tells how many times to use the *base* as a factor.



Read 7^3 as:
 "7 cubed,"
 "7 to the third power," or
 "the third power of 7."



Write each product in exponential form.

1. $5 \times 5 \times 5 \times 5 \times 5 \times 5$

2. $21 \times 21 \times 21 \times 21$

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

4. $7 \times 7 \times 7 \times 7 \times 7 \times 7 \times 7 \times 7 \times 7 \times 7$

5. $12 \times 12 \times 12 \times 12 \times 12 \times 12 \times 12 \times 12$

Write the standard form for each.

6. 8^4

7. 9^2

8. 5^3

9. 6^0

10. 13 cubed

11. 9 to the 4th power

12. 16 squared

13. the 2nd power of 18

Write the missing exponents.

14. $8^x = 64$

15. $12^y = 1$

16. $10^n = 100,000$

17. $11^a = 1331$

Compare. Write $<$, $=$, or $>$.

18. 3^5 _____ 4^3

19. 2^4 _____ 4^2

20. 5^4 _____ 25^1

21. 8^3 _____ 22^2

Problem Solving

22. There are 5^5 students at West High School and 4^6 students at East High School. How many students are at both schools combined?



Solve the problem. Write your answer as an improper fraction (if possible).

1) $\frac{56}{6} - \frac{32}{6} =$

2) $\frac{72}{10} - \frac{67}{10} =$

3) $\frac{25}{3} - \frac{13}{3} =$

4) $\frac{24}{5} - \frac{24}{5} =$

5) $\frac{22}{4} - \frac{5}{4} =$

6) $\frac{78}{8} - \frac{15}{8} =$

7) $\frac{53}{12} + \frac{20}{12} =$

8) $\frac{47}{5} + \frac{12}{5} =$

9) $\frac{39}{4} + \frac{39}{4} =$

10) $\frac{63}{8} + \frac{46}{8} =$

11) $\frac{65}{12} + \frac{19}{12} =$

12) $\frac{13}{3} + \frac{11}{3} =$

Answers

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

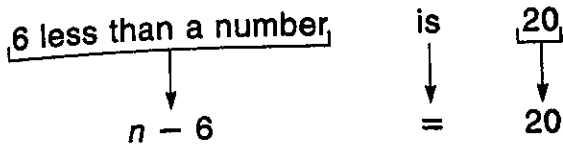
12. _____

Translate Expressions

Name _____

Date _____

Stephanie tells Paul that 6 less than the number she is thinking of is 20. What numerical expression represents this?



Word phrases can be written as numerical or algebraic expressions.

Write as an algebraic expression. Use n as the variable.

1. 4 less than twice a number _____
2. half a number, plus 7 _____
3. double a number, plus 20 _____
4. 24 times the sum of a number and 2.25 _____
5. the quotient of a number and 0.76, increased by 6.5 _____
6. the product of a number cubed and the sum of 57.6 and 3.42 _____
7. $\frac{1}{2}$ the width of a table, minus 1 _____

Write as a word phrase.

8. $98 + 2.2 \times 3.73$ _____
9. $x - 10 \times 15$ _____
10. $35 + 7z$ _____
11. $100 + 625 \div 125$ _____
12. $\frac{99}{p} - 3$ _____
13. $3835 \div (y^2 - 7)$ _____
14. $d \div (7 + 35)$ _____

Problem Solving Write an expression for each. Then compute if possible.

15. Derek buys a package of 8 cycling classes for \$9 per class. He pays a one-time \$3 registration fee. How much does Derek spend in all? _____
16. Jessica orders 35 embroidered baseball caps. The caps cost \$10.95 each plus an embroidery fee for the entire order. How much does Jessica pay in all? _____

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