

FOR STUDENTS WHO HAVE COMPLETED Math 7
(Students entering Math 8)

Name: _____

Date: _____ Period: _____

Dear Parent/Guardian & Math 8 Student,

Next school year, your child will be taking Math 8 and will need core prerequisite skills from Math 7 upon the start of school. You will find a review packet of skills which each child is expected to know upon the start of the year. Students will be given a test (no calculators) on this information during the second week of the school year. Teachers will go over the answers from the packet during the first week of school and minimal direct instruction will occur on these concepts, as they are a review from Math 7. Students may seek additional help during recap to ask questions.

Topics from Pre-Algebra to be tested during the second week of school.

- Integers
- Decimals
- Fractions
- Order of Operations

You may also access the following websites to assist your child.

www.purplemath.com

www.math.com

www.khanacademy.com

**PLEASE SHOW ALL WORK. STUDENTS SHOULD NOT USE A
CALCULATOR FOR THIS PACKET.**

Have a great summer.

The PAMS Math Department

Order of Operations

| | |
|--|--------------------------|
| Parentheses (Grouping Symbols) | $[(7 - 4)^2 + 3] + 15$ |
| Exponents | $= [3^2 + 3] + 15$ |
| Multiply or Divide, from left to right | $= [3 \cdot 3 + 3] + 15$ |
| Add or Subtract, from left to right | $= [9 + 3] + 15$ |
| | $= 12 + 15$ |
| | $= 27$ |

NO CALCULATOR!

| | | |
|---------------------------|---------------------------------|------------------------------|
| 1. $6 \div 3 + 2 \cdot 7$ | 2. $5 + 8 \cdot 2 - 4$ | 3. $16 \div 8 \cdot 2^2$ |
| 4. $10 \div (3 + 2) + 9$ | 5. $7 \cdot [(18 - 6) - 6]$ | 6. $3 + (27 \div 9) - 5$ |
| 7. $(5 - 3)^2 + 3$ | 8. $[10 + (25 \cdot 2)] \div 6$ | 9. $(9 \cdot 2) + 18 \div 6$ |

Rules: ** If a number has no sign it means it is a positive number. **

Addition

SAME SIGNS

- 1) Add their absolute values.
- 2) Attach the common signs.

$$-4 + (-5) = -(4 + 5) = -9 \qquad 4 + 5 = 9$$

OPPOSITE SIGNS

- 1) Subtract the smaller absolute value from the larger absolute value.
- 2) Attach the sign of the number with the larger absolute value.

$$3 + (-9) = -(9 - 3) = -6 \qquad -3 + 9 = +(9 - 3) = 6$$

Subtraction

- 1) Adding the opposite of a number is equivalent to subtracting the number.
- 2) Change all problems to addition and follow the addition rules.

$$3 - 12 = 3 + (-12) = -(12 - 3) = -9$$

$$-7 - 1 = -7 + (-1) = -(7 + 1) = -8$$

$$-4 - (-10) = -4 + 10 = +(10 - 4) = 6$$

$$12 - (-8) = 12 + 8 = 20$$

NO CALCULATOR!

| | |
|--------------------------|--------------------------|
| 1. $10 + (-9) =$ | 2. $-2 + 15 =$ |
| 3. $2 - 5 =$ | 4. $15 - 19 =$ |
| 5. $-7 - (-4) =$ | 6. $8 + 27 =$ |
| 7. $-12 - (-5) =$ | 8. $0 - 9 =$ |
| 9. $-9 - (-11) + (-4) =$ | 10. $-6 - 5 - (-8) =$ |
| 11. $24 - 21 + (-20) =$ | 12. $-39 - (-30) - 14 =$ |

Rules:

- 1) If two numbers have the same sign, their product or quotient is positive.
 $(-7)(-5) = 35$ $6 \cdot 8 = 48$
- 2) If two numbers have opposite signs, their product or quotient is negative
 $9(-2) = -18$ $(-3)(4) = -12$

NO CALCULATOR!

| | | | |
|--------------------------|-------------------------|---------------------|-----------------------|
| 1. $(-7)(3) =$ | 2. $(5)(-4) =$ | 3. $(20)(-60) =$ | 4. $-8 \cdot -5 =$ |
| 5. $-45 \div 5 =$ | 6. $\frac{-24}{-6} =$ | 7. $56 \div (-7) =$ | 8. $\frac{-99}{11} =$ |
| 9. $(4)(-2)(7) =$ | 10. $(-2)(-1)(4)(-6) =$ | | |
| 11. $-370 \div (-10) =$ | 12. $\frac{32}{-8} =$ | | |
| 13. $(11)(-1)(-8)(-3) =$ | 14. $\frac{39}{3} =$ | | |
| 15. $(-60) \div (-12) =$ | 16. $(-6)(8)(-2)(5) =$ | | |

Rules:

1) Find LCD.

2) Change to equivalent fractions.

3) Rename, if needed.

4) Add or Subtract.

5) Simplify

$$\begin{array}{r} 3\frac{1}{9} = 3\frac{2}{18} = 2\frac{20}{18} \\ -1\frac{5}{6} = -1\frac{15}{18} = -1\frac{15}{18} \\ \hline \end{array}$$

$$1\frac{5}{18}$$

$$\begin{array}{r} 4\frac{3}{4} = 4\frac{9}{12} \\ + 5\frac{5}{6} = +5\frac{10}{12} \\ \hline \end{array}$$

$$9\frac{19}{12} = 10\frac{7}{12}$$

NO CALCULATOR!

1. $2\frac{3}{4} + 5\frac{5}{6}$

2. $9 - 4\frac{2}{5}$

3. $6\frac{1}{3} + 4\frac{3}{5}$

4. $8\frac{1}{9} - 2\frac{5}{6}$

5. $9 + 1\frac{1}{7}$

6. $6\frac{1}{2} + 2\frac{2}{3}$

7. $5\frac{1}{2} + 1\frac{3}{5}$

8. $1\frac{3}{4} - \frac{1}{2}$

Rules:

- 1) Change all mixed numbers to improper fractions.
- 2) Multiplying across.
- 3) Simplify

$$2\frac{2}{3} \cdot 4\frac{1}{10} = \frac{8}{3} \cdot \frac{41}{10} = \frac{4}{3} \cdot \frac{41}{5} = \frac{164}{15} = 10\frac{14}{15}$$

- 1) Change all mixed numbers to improper fractions.
- 2) Take the reciprocal.
- 3) Multiply across.
- 4) Simplify

$$2\frac{3}{4} \div 3\frac{1}{2} = \frac{11}{4} \div \frac{7}{2} = \frac{11}{4} \cdot \frac{2}{7} = \frac{11}{2} \cdot \frac{1}{7} = \frac{11}{14}$$

NO CALCULATOR!

| | | | |
|---------------------------------------|---------------------------------------|--------------------------------------|--------------------------------------|
| 1. $2\frac{3}{4} \cdot 1\frac{5}{11}$ | 2. $9 \cdot 4\frac{2}{3}$ | 3. $1\frac{1}{3} \cdot 4\frac{1}{6}$ | 4. $1\frac{1}{9} \cdot 2\frac{2}{5}$ |
| 5. $9 \cdot 1\frac{1}{3}$ | 6. $6\frac{1}{2} \cdot 2\frac{1}{13}$ | 7. $5\frac{1}{2} \div 1\frac{3}{4}$ | 8. $1\frac{3}{4} \div \frac{1}{2}$ |

Rules:

- 1) Line up decimal points, if a number does not have a decimal point it is a whole number with the decimal point at the end.
- 2) Annex zeros to hold place.
- 3) Add or subtract vertically.
- 4) Bring down the decimal point.

$$\begin{array}{r}
 4.1 + 3 + 5.61 + 21 \\
 4.10 \\
 3.00 \\
 5.61 \\
 + 21.00 \\
 \hline
 33.71
 \end{array}$$

$$\begin{array}{r}
 16 - 7.498 \\
 16.000 \\
 - 7.498 \\
 \hline
 8.502
 \end{array}$$

NO CALCULATOR!

1. $5.1 + 2.23 + 8$

2. $9 + 3.3 + 0.781$

3. $6.7 - 3.987$

4. $5.21 + 6.5 + 8.123$

5. $9.8 - 2.0871$

6. $7.3 + 4.3 + 12 + 0.543$

7. $9.1 + 7.89 - 2.6$

8. $16 - 7.5 + 3.12$

9. $2.8 + 15 - 9.12$

10. $7.8 - 2.3 + 15$

11. $8 + 4.1 - 0.123$

12. $6.3 - 0.45 + 2.45$

Answer Key

Page 1 - Order of Operations

1. 16 2. 17 3. 8 4. 11
5. 42 6. 1 7. 7 8. 10 9. 21

Page 2 - Integers: Adding and Subtracting

1. 1 2. 13 3. -3 4. -4 5. -3 6. 35
7. -7 8. -9 9. -2 10. -3 11. -17 12. -23

Page 3 - Integers: Multiplying and Dividing

1. -21 2. -20 3. -1200 4. 40 5. -9 6. 4 7. -8 8. -9
9. -56 10. -48 11. 37 12. -4 13. -264 14. 13 15. 5 16. 480

Page 4 - Fractions: Adding and Subtracting

1. $8\frac{7}{12}$ 2. $4\frac{3}{5}$ 3. $10\frac{14}{15}$ 4. $5\frac{5}{18}$ 5. $10\frac{1}{7}$ 6. $9\frac{1}{6}$ 7. $7\frac{1}{10}$ 8. $1\frac{1}{4}$

Page 5 - Fractions: Multiplying and Dividing

1. 4 2. 42 3. $5\frac{5}{9}$ 4. $2\frac{2}{3}$ 5. 12 6. $13\frac{1}{2}$ 7. $3\frac{1}{7}$ 8. $3\frac{1}{2}$

Page 6 - Decimals: Adding and Subtracting

1. 15.33 2. 13.081 3. 2.713 4. 19.833 5. 7.7129
6. 24.143 7. 14.99 8. 11.62 9. 8.68 10. 20.5
11. 11.977 12. 8.3