Name:

Fisher Middle School's

Summer Math Packet

for 6th Graders
coming into
7th Grade
Math

THE EWING PUBLIC SCHOOLS

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Dear Parents/Guardians:

The Ewing Board of Education has endorsed the use of a Summer Mathematics Packet in order to keep your child's math skills honed and current through the summer break.

To help keep your child's math skills sharp, it is recommended that approximately one independent practice page be completed each week during the summer break. Working through the packet at a steady pace throughout the summer will help keep your child's math skills at their peak.

Answers will be available this summer; however they are not in this packet. Parents can get the answers for the summer math packet from the Main Office at Fisher Middle School. These answers will be available throughout the summer starting in early July. This will enable the students to be challenged, while providing parents the support necessary to help their children meet the challenge.

We count on your efforts to positively communicate the high standards called for in our State and Township. Thank you in advance for your example, encouragement, and support of your children's efforts in mathematics, as we continue to work together helping your children attain mathematic excellence.

Don Wahlers
District Supervisor of Grade K-6 S.T.E.M.

Karen Benton
District Supervisor of Grade K-7 S.T.E.M.

Name _____

Evaluate each expression. Use the order of operations.

Remember: **PEMDAS**

1) **P**arentheses 2) **E**xponents 3) **M**ultiply and **D**ivide (as it occurs left to right) 4) **A**dd and **S**ubtract (as it occurs left to right)

❶ $12 \times (4 + 6) \div 5$

$12 \times 10 \div 5$

$120 \div 5$

24

❷ $32 + 5 \times 4$

❸ $20 - 6 \times 2$

❹ $(15 - 3) \times 5$

❺ $3^2 + 5 \times 4$

❻ $2^4 - 7 \times 2$

❼ $10^2 - 4^2 \times 2$

❽ $3^3 + 8 \times 2^2$

❾ $24 - 6^2 \div 3$

❿ $10^3 \div 2^2 \times 5$

⓫ $4^3 + 9 \times 2^2$

⓬ $6^2 - 4^2 \times 2$

Use parentheses to make each statement true.

⓭ $36 \div 6 - 2 = 9$

⓮ $6^2 - 3 \times 8 + 2 = 14$

⓯ $15 - 2 + 5 = 8$

☆ **Look at Problem 3. Tell the steps you take to evaluate the expression.**

Win a Pizza!

Skills:
Multiplication of Fractions Including Mixed Numbers

The local pizza parlor is giving away a pizza to anyone who can answer all of these multiplication problems. Marcos wants to win. Can you give him a helping hand to find the correct answers? Write the answers in the simplest form.

1. $\frac{2}{5} \times \frac{1}{3} =$ _____
2. $\frac{1}{4} \times \frac{3}{7} =$ _____
3. $\frac{1}{2} \times \frac{3}{8} =$ _____
4. $\frac{3}{7} \times \frac{3}{4} =$ _____
5. $\frac{5}{9} \times \frac{1}{3} =$ _____
6. $1\frac{2}{5} \times 3\frac{3}{4} =$ _____
7. $4\frac{2}{7} \times \frac{1}{2} =$ _____
8. $3\frac{3}{5} \times 2\frac{6}{7} =$ _____
9. $1\frac{2}{5} \times 2\frac{3}{4} =$ _____
10. $4\frac{1}{2} \times 3\frac{1}{2} =$ _____

Remember:

To multiply fractions, multiply the numerators, then multiply the denominators.

$$\frac{1}{2} \times \frac{2}{3} = ?$$

$$\frac{1 \times 2}{2 \times 3} = \frac{2}{6}$$

Reduce $\frac{2}{6}$ to simplest terms.

$$\frac{2}{6} = ?$$

$$\frac{2 \div 2}{6 \div 2} = \frac{1}{3}$$

To multiply mixed numbers by fractions, change the mixed numbers to improper fractions.

$$2\frac{1}{2} \times 2\frac{2}{3} = ?$$

$$\frac{5}{2} \times \frac{8}{3} =$$

Then multiply the fractions.

$$\frac{5 \times 8}{2 \times 3} = \frac{40}{6}$$

$$\frac{40}{6} = 6\frac{4}{6} = 6\frac{2}{3}$$

Tongue Twister

Complete each division problem below. Then write the corresponding letter on the line in front of each problem. The letters will spell out a tongue twister. Try to say it quickly six times.

S $\frac{3}{4} \div \frac{1}{2} = 1\frac{1}{2}$

_____ $\frac{1}{2} \div \frac{2}{3} =$ _____

_____ $\frac{4}{5} \div \frac{3}{5} =$ _____

_____ $\frac{2}{3} \div \frac{5}{6} =$ _____

_____ $\frac{4}{7} \div \frac{1}{2} =$ _____

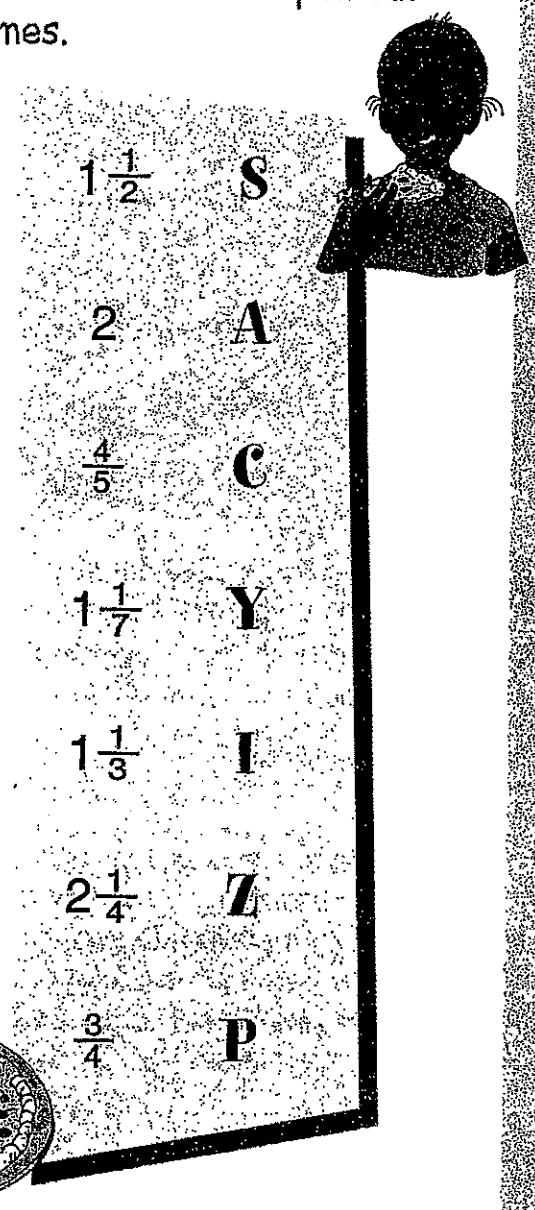
_____ $\frac{2}{4} \div \frac{2}{3} =$ _____

_____ $\frac{8}{10} \div \frac{3}{5} =$ _____

_____ $\frac{3}{4} \div \frac{1}{3} =$ _____

_____ $\frac{6}{8} \div \frac{1}{3} =$ _____

_____ $\frac{4}{5} \div \frac{2}{5} =$ _____



Remember:

To divide fractions, invert (turn upside down) the divisor fraction. Then multiply the fractions. Write the answer in the lowest terms.

For example,

$\frac{2}{3} \div \frac{1}{3} = ?$

$\frac{2}{3} \times \frac{3}{1} = \frac{6}{3}$

$\frac{6}{3} = 2$

$\frac{5}{6} \div \frac{2}{3} = ?$

$\frac{5}{6} \times \frac{3}{2} = \frac{15}{12}$

$\frac{15}{12} = 1\frac{3}{12} = 1\frac{1}{4}$

Name _____

Find each quotient. Divide as you would with whole numbers.

❶ 8.06 ÷ 0.2 = _____

$0.2\overline{)8.06}$ ← Multiply the divisor and the dividend by 10.

$$\begin{array}{r} 4. \\ 2\overline{)80.6} \\ \underline{-} \end{array}$$

← Place the decimal point in the quotient.
← Divide.
← Multiply.
← Subtract.

Think: $2\overline{)8}$

$$\begin{array}{r} 4.0 \\ 2\overline{)8.06} \\ \underline{-8} \\ 0\ 0 \\ 6 \end{array}$$

← Bring down. Divide.

Think: $2\overline{)0} = 0$ and $0 \times 2 = 0$. Write 0 in the quotient.

Divide.

❷ 4.05 ÷ 5 = _____

$5\overline{)4.05}$

❸ 7.2 ÷ 0.9 = _____

$0.9\overline{)7.2}$

❹ 8.32 ÷ 0.8 = _____

$0.8\overline{)8.32}$

❺ 10.2 ÷ 0.2 = _____

$0.2\overline{)10.2}$

❻ 5.2 ÷ 5 = _____

$5\overline{)5.2}$

❼ 6.3 ÷ 0.3 = _____

$0.3\overline{)6.3}$

❽ 2.07 ÷ 3 = _____

$3\overline{)2.07}$

❾ 7.8 ÷ 0.4 = _____

$0.4\overline{)7.8}$

❿ 2.34 ÷ 0.03 = _____

$0.03\overline{)2.34}$

⓫ 7.3 ÷ 0.2 = _____

$0.2\overline{)7.3}$

⓬ 0.9 ÷ 3 = _____

$3\overline{)0.9}$

⓭ 2.7 ÷ 0.09 = _____

$0.09\overline{)2.7}$

⓮ 10.50 ÷ 0.5 = _____

$0.5\overline{)10.50}$

⓯ 1.48 ÷ 0.3 = _____

$0.3\overline{)1.48}$

⓰ 0.02 ÷ 2 = _____

$2\overline{)0.02}$

☆ **Tell how you can use multiplication to check your answer.**

Name _____ Date _____

Proportions

Ratio and Proportion

Proportion: An equation that sets two ratios equal to each other.

$\frac{5}{7} \overset{\times 5}{=} \frac{x}{35}$ $x = 25$ $\qquad$ $\frac{4}{28} \overset{\div 4}{=} \frac{1}{x}$ $x = 7$

Solve.

1. $\frac{a}{5} = \frac{8}{10}$
2. $\frac{1}{3} = \frac{4}{d}$
3. $\frac{2}{10} = \frac{c}{5}$
4. $\frac{24}{80} = \frac{x}{60}$
5. $\frac{1}{b} = \frac{4}{16}$
6. $\frac{50}{100} = \frac{10}{d}$
7. $\frac{3}{b} = \frac{6}{16}$
8. $\frac{a}{9} = \frac{2}{6}$
9. $\frac{a}{5} = \frac{8}{10}$
10. $\frac{6}{24} = \frac{2}{d}$
11. $\frac{20}{x} = \frac{16}{36}$
12. $\frac{10}{16} = \frac{x}{56}$
13. $\frac{33}{99} = \frac{21}{x}$
14. $\frac{48}{80} = \frac{x}{5}$
15. $\frac{5}{n} = \frac{25}{45}$

Percents, Decimals, and Fractions

Percent (%) means "per hundred." It is a ratio that compares a number to 100. It is the number of hundredths.

Fraction to Decimal:
The fraction bar means divide.

$\frac{3}{5} = 3 \div 5$ $\quad 5\overline{)3.0}$ $\quad \frac{3}{5} = 0.6$

$\frac{.6}{5)3.0}$

$\frac{30}{0}$

Percent to Decimal:
Move the decimal two places to the left.

42% = 0.42

1.87% = 0.0187

Decimal to Percent:
Move the decimal two places to the right.

0.08 = 8%

0.73 = 73%

Decimal to Fraction:
Write the digits over the appropriate place value and reduce to lowest terms.

0.35 = thirty-five hundredths $= \frac{35}{100} = \frac{7}{20}$

0.015 = fifteen thousandths $= \frac{15}{1000} = \frac{3}{200}$

▶ Write each fraction in decimal form.

1. $\frac{4}{5}$ ____ **2.** $\frac{3}{8}$ ____ **3.** $\frac{5}{3}$ ____ **4.** $\frac{7}{9}$ ____

▶ Change each percent to its decimal form.

5. 39%____ **6.** 7%____ **7.** 1.8%____ **8.** 132%____ **9.** 0.05%____

▶ Change each decimal to its percent form.

10. 0.87____ **11.** 1.20____ **12.** 0.45____ **13.** 0.02____ **14.** 0.342____

▶ Change each decimal to a fraction.

15. 0.6____ **16.** 0.42____ **17.** 0.025____ **18.** 0.85____ **19.** 1.92____

example: $y + 12 = 50$, $-12 \quad -12$, $y = 38$

example: $m - 13 = 50$, $+13 \quad +13$, $m = 37$

example: $\frac{7a}{7} = \frac{81}{7}$, $a = 27$

example: $\frac{n}{15} \times 15 = 3 \times 15$, $n = 45$

What Do You Call a Vacation Trip for 27 Physicians?

Cross out the letter above each solution. When you are finished, the answer to the title question will remain.

1. $y + 15 = 72$
2. $m - 44 = 138$
3. $7a = 91$
4. $\frac{n}{16} = 3$
5. $9.4 + k = 37.5$
6. $6.2 = u - 3.3$
7. $0.4x = 20$
8. $48 = \frac{w}{7.5}$
9. $920 = d + 250$
10. $q - 0.7 = 0.7$
11. $80v = 40$
12. $\frac{1}{12}b = 5$

13. After two games of bowling, Tonka had a total score of 220. His score for the first game was 97. What was his score for the second game?

14. The difference between two angle measures is 45°. The smaller angle measures 80°. What is the measure of the larger angle?

15. At Fantasy Flowers, a dozen roses sells for $27. What is the cost of each rose?

16. If a chocolate bar is divided into 3 equal pieces, each piece has 170 calories. How many calories are in the whole bar?

17. The width of a rectangle is 0.6 of the length. If the width is 9 ft, what is the length?

18. Zargon Ziff sells vacuum cleaners. He gets to keep one eighth of his sales as a commission. How much must he sell in order to earn $500?

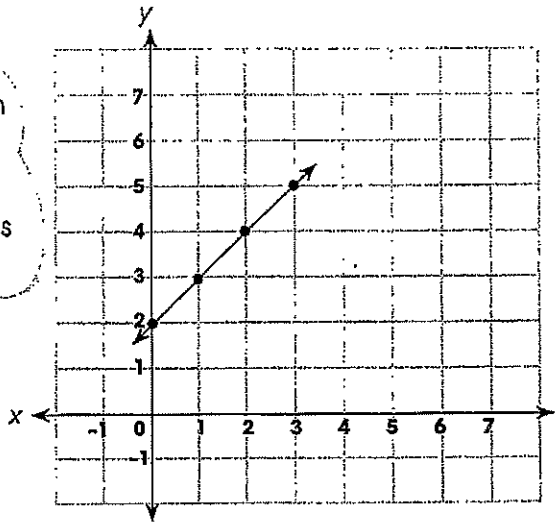
S	T	A	N	D	A	Y	G	O	N	E	C	K	A	T	G	O	R	I	F	U	N	P	A	R	T
90	28.1	135	510 cal	$2500	125°	13	1.4	$2.80	$4000	360	450 cal	57	123	16.5 ft	9.5	590	15 ft	48	0.5	2.3	670	$2.25	182	110°	50

Complete each table. Then graph the equation.

1 $y = x + 2$

x	y
4	6
3	5
2	
1	
0	

Think: The equation describes the relationship. For every value of x, y is 2 more.

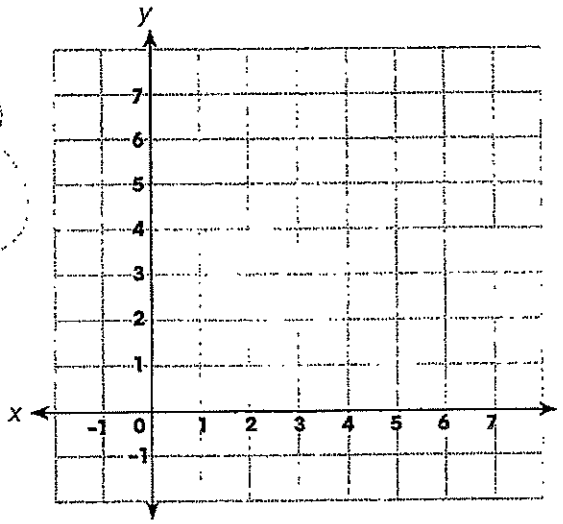


Think: Each point on the graph represents an ordered pair from the table.

2 $y = x - 3$

x	y
7	4
6	
5	
4	
3	

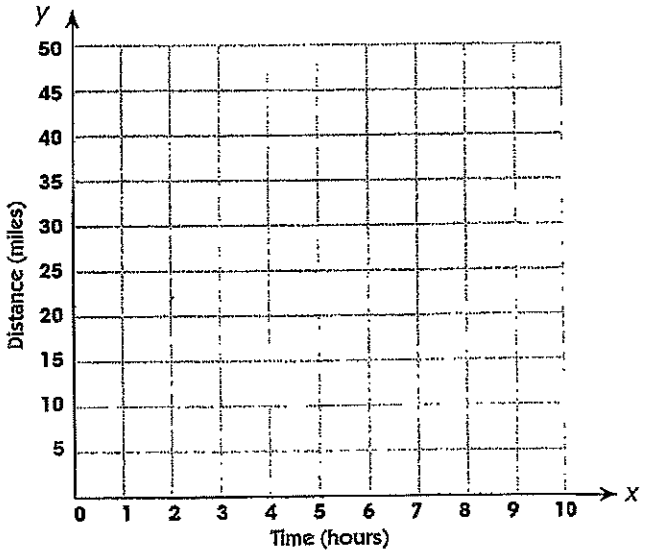
Think: First use the equation to find the ordered pairs and then graph them.



3 $D = 5t$

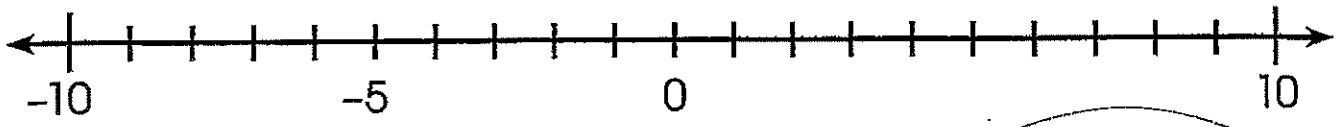
D	t
5	1
10	2
15	3
	4
	5

Think: $D = rt$ is a formula. The rate is 5, so distance = 5 x t.



☆ **Look at Problem 3. Make a point on the graph that shows how much time it takes to go 35 miles.**

olve. Then place the integer on the number line.



Remember: An opposite integer is an equal distance from 0, but on the opposite side of 0.

1. An integer whose opposite is –5 _____

2. Two integers whose absolute value is 131 _____

Think: Absolute value is a number's distance from 0 on the number line.

3. An integer whose opposite is 2 _____

4. Two integers whose absolute value is 191 _____

5. An integer greater than –8 and less than –6 _____

Think: Numbers to the right on a number line are greater. What integer is to the right of –8?

omplete the number line above. Write > or < to make each statement true.

6. –2 ◯ –3

Think: –2 is to the right of –3 on the number line.

7. –6 ◯ 1

Think: Where is –6 on the number line? Is it to the right or left of 1?

8. 10 ◯ –10

9. –5 ◯ –6

10. 5 ◯ 6

11. –3 ◯ 2

12. 4 ◯ –7

13. 8 ◯ 7

14. –2 ◯ –7

15. –9 ◯ 8

16. 6 ◯ –6

☆ **Use the number line at the top of the page. Place the number $\frac{1}{2}$ on it.**

Name _____

Write an expression for each.

❶ 17 times a number y

_____

Think: y is a variable, it stands for a number.

❷ 10 more than x

_____

Think: What operation should I use?

❸ $\frac{x}{15}$

_____

Remember that the fraction bar means division.

❹ 25 less than x

_____

❺ The sum of a number b and 24

_____

❻ 18 less than x

_____

❼ A number n decreased by 5

_____

❽ An amount a divided by 3

_____

Evaluate each expression. Let $a = 4$, $b = 5$, and $c = 7$

❾ $c + 20$

_____

Think: y is a variable; it stands for a number.

❿ $2b - 3$

_____

⓫ $a^2 + 10$

_____

⓬ $5a + 8$

_____

⓭ $3c - 11$

_____

⓮ $b^2 - 5$

_____

⓯ $(c + 3) \times a$

_____

⓰ $c^2 - 3^2$

_____

⓱ $4 \times b^3 - 10^2$

_____

☆ **Look at Problem 15. Tell the steps you took to evaluate the expression.**