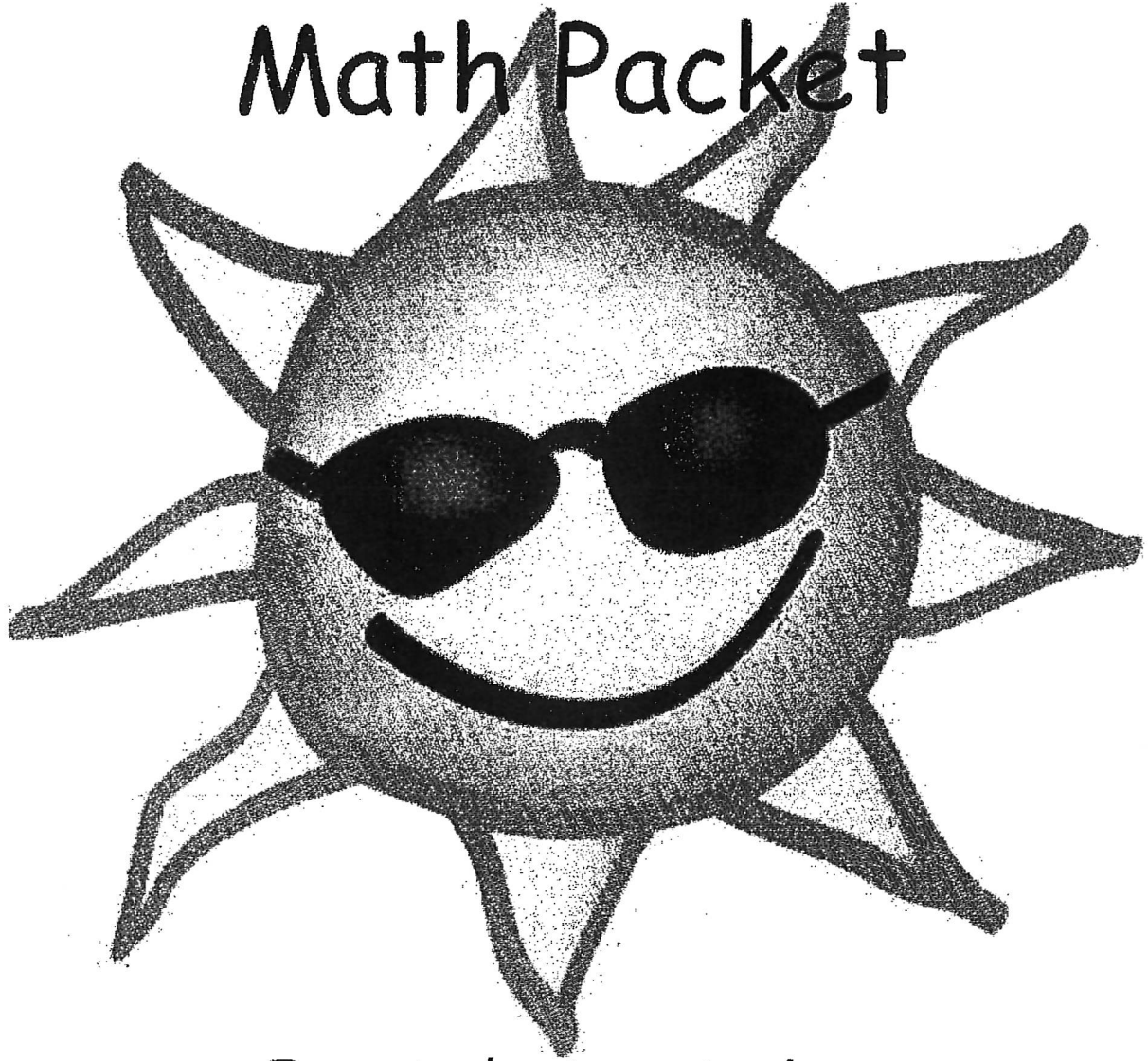# Summer

Math Packet

For students entering:

Math 6

Name: _____

Concepts students should know before entering 6th Grade.

Students should be advanced at these concepts:

Directions: Complete the following problems. NO CALCULATOR!

$$4\overline{)76} \quad \begin{array}{r} 19 \\ \hline 76 \\ -4 \\ \hline 36 \\ -36 \\ \hline 0 \end{array}$$

$2\overline{)42}$

$10\overline{)110}$

$12\overline{)132}$

$8\overline{)16}$

$2\overline{)80}$

$9\overline{)36}$

$6\overline{)42}$

$2\overline{)144}$

$2\overline{)114}$

$2\overline{)70}$

$6\overline{)102}$

Long Division

Directions: Complete the following problems. NO CALCULATOR! SHOW ALL WORK!!

1. $\begin{array}{r} 619 \\ 5\overline{)3{,}095} \\ -30 \\ \hline 09 \\ -5 \\ \hline 45 \\ -45 \\ \hline 0 \end{array}$	**2.** $3\overline{)1{,}530}$	**3.** $12\overline{)6{,}036}$
4. $9\overline{)4{,}581}$	**5.** $7\overline{)5{,}425}$	**6.** $8\overline{)7{,}424}$
7. $3\overline{)2{,}424}$	**8.** $11\overline{)2{,}288}$	**9.** $6\overline{)5{,}442}$
10. $8\overline{)5{,}656}$	**11.** $3\overline{)1{,}560}$	**12.** $4\overline{)3{,}204}$

Order of Operation

Directions: Simplify the following. Remember your PEMDAS rules!

PEMDAS Rules

Evaluate the problem in the following order:

1) P - Parentheses

2) E - Exponents (Powers and Square Roots)

3) MD - Multiplication and Division (Left to Right)

4) AS - Addition and Subtraction (Left to Right)

You can remember the order by saying :

Please	Excuse	My	Dear	Aunt	Sally
a	x	u	i	d	u
r	p	l	v	d	b
e	o	t	i	i	t
n	n	l	s	t	r
t	e	p	i	l	a
h	n	l	o	o	c
e	t	i	n	n	t
s	s	c			i
e		a			o
s		t			n
		l			
		o			
		n			

$13 \times 13 - 4 + 10$	1. $18 - 11 + 19 \times 3$
$169 - 4 + 10$ $165 + 10$ $\boxed{175}$	

2. $24 \div 8 \times 11 + 3$	3. $2 + 11 \times 17 - 12$

4. $9 + 4 \times 12 + 15$	5. $16 \times 3 - 2 + 3$

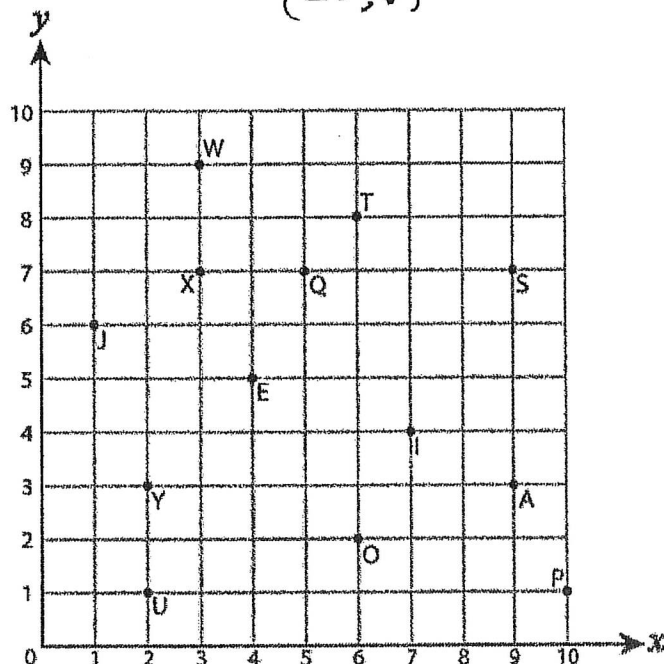| 6. $16 + 9 - 10 \div 5$	7. $16 \div 2 + 19 - 16$

3

$7 \times (5 \times 10 + 4) - 7$

$7 \times (50 + 4) - 7$

$7 \times 54 - 7$

$378 - 7$

$\boxed{371}$

1. $(8 + 23 - 3) \div (13 - 6)$

2. $(15 - 3) \times (10 + 3) - 4$

3. $(16 + 4) + (11 + 15 \div 5)$

4. $(14 + 29 - 3) \div 20 - 2$

5. $(15 + 18 - 3) \div (15 \times 2)$

6. $(8 + 4) + (10 + 14 \div 7)$
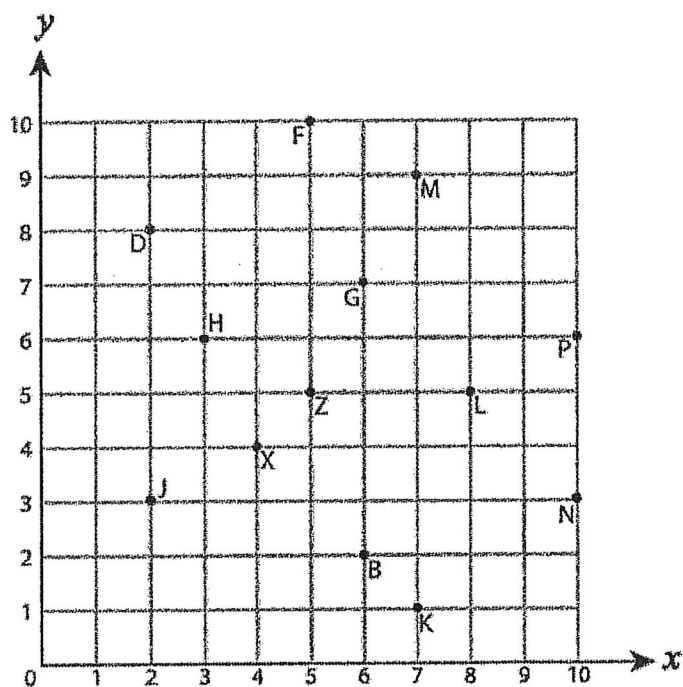
7. $(12 + 22 - 2) + 16 - 2$

4

Coordinate System

Directions: Write the point that is located at each ordered pair.

(x, y)

1) (6, 2) O   2) (6, 8) _____

3) (10, 1) _____   4) (4, 5) _____

5) (9, 7) _____   6) (2, 3) _____

7) (1, 6) _____   8) (5, 7) _____

9) (2, 1) _____   10) (7, 4) _____

Directions: Write the ordered pair for each point.

11) N (10 , 3)   12) X (___ , ___)

13) B (___ , ___)   14) L (___ , ___)

15) Z (___ , ___)   16) P (___ , ___)

17) D (___ , ___)   18) M (___ , ___)

19) J (___ , ___)   20) H (___ , ___)

5

Adding & Subtracting Decimals

Directions: _Solve the following._ _DO NOT USE A CALCULATOR!!_

Example 1 **Add Decimals**

Find the value of 3.9 + 2.45.

STEP 1 Rewrite the problem vertically in order to align the decimal points in each number. Add a zero to 3.9 as a placeholder.

$$
\begin{array}{r}
3.90 \\
+\ 2.45 \\
\hline
\end{array}
$$

STEP 2 Begin by adding the digits in the hundredths place.

$$
\begin{array}{r}
3.90 \\
+\ 2.45 \\
\hline
5
\end{array}
$$

STEP 3 Add the digits in the tenths place. Since 9 + 4 = 13, regroup 10 tenths as 1 one.

$$
\begin{array}{r}
{}^{1}\ \\
3.90 \\
+\ 2.45 \\
\hline
.35
\end{array}
$$

STEP 4 Place the decimal point in the answer. Add the digits in the ones place.

$$
\begin{array}{r}
{}^{1}\ \\
3.90 \\
+\ 2.45 \\
\hline
6.35
\end{array}
$$

3.9 + 2.45 = 6.35

Example 2 **Subtract Decimals**

Find the value of 8.6 − 4.55.

STEP 1 Rewrite the problem vertically in order to align the decimal points in each number. Add a zero to 8.6 as a placeholder.

$$
\begin{array}{r}
8.60 \\
-\ 4.55 \\
\hline
\end{array}
$$

STEP 2 Begin by subtracting the digits in the hundredths place. Regroup 1 tenth as 10 hundreds so that you can subtract.

$$
\begin{array}{r}
{}^{5\ 10} \\
8.6\cancel{0} \\
-\ 4.55 \\
\hline
5
\end{array}
$$

STEP 3 Subtract the digits in the tenths place.

$$
\begin{array}{r}
{}^{5\ 10} \\
8.6\cancel{0} \\
-\ 4.55 \\
\hline
05
\end{array}
$$

STEP 4 Place the decimal point in the answer. Subtract the digits in the ones place.

$$
\begin{array}{r}
{}^{5\ 10} \\
8.6\cancel{0} \\
-\ 4.55 \\
\hline
4.05
\end{array}
$$

8.6 − 4.55 = 4.05

1. 4.59 + 1.02	2. 9.04 − 6.32	3. 5.8 + 0.26
4. 6.5 − 3.7	5. 0.4 + 8.61	6. 3.28 − 1.09
7. 5.7 + 4.63	8. 6.3 − 2.99	9. 8.07 + 0.86
10. 7.2 − 5.98	11. 7.02 + 7.3	12. 5.33 − 2.68

6

Multiplying and Dividing Decimals

Find the product or quotient. Show ALL work in the space provided or on a separate piece of paper.

1) $3.94 \cdot 0.4$

2) $0.144 \div 12$

3) $0.587 \cdot 8$

4) $40.8 \div 2$

Read each problem carefully. Show ALL work in the space provided or on a separate piece of paper.

5) A deli charges $3.45 for a pound of turkey. If Tim wants to purchase 2.4 pounds, how much will it cost?

7

6) The average mail carrier walks 4.8 kilometers in a workday. How far do most mail carriers walk in a 6-day week? There are 27 working days in July, so how far will a mail carrier walk in July?

7) Anna is saving $6 a week to buy a computer game that costs $57.12. How many weeks will she have to save to buy the game?

8) Ben ran a 19.6-mile race last Saturday. His average speed during the race was 7 miles per hour. How long did it take Ben to finish the race?

9) Antonio bought 4.5 pounds of cashews. They cost $1.40 per pound. How much did Antonio pay in total for the cashews?

Mixed Numbers & Improper Fractions

Directions: Convert the following improper fractions to mixed numbers. Write your answer on the line next to each problem.

1) $\dfrac{9}{4}=$ $2\dfrac{1}{4}$	6) $\dfrac{11}{5}=$ ___	11) $\dfrac{71}{10}=$ ___
2) $\dfrac{82}{9}=$ ___	7) $\dfrac{61}{6}=$ ___	12) $\dfrac{29}{7}=$ ___
3) $\dfrac{31}{5}=$ ___	8) $\dfrac{7}{3}=$ ___	13) $\dfrac{55}{6}=$ ___
4) $\dfrac{13}{3}=$ ___	9) $\dfrac{50}{7}=$ ___	14) $\dfrac{21}{10}=$ ___
5) $\dfrac{29}{7}=$ ___	10) $\dfrac{17}{4}=$ ___	15) $\dfrac{25}{4}=$ ___

Directions: Convert the following improper fractions to mixed numbers. Write your answer on the line next to each problem.

1) $5\dfrac{1}{3}=$ $\dfrac{16}{3}$	6) $2\dfrac{1}{2}=$ ___	11) $9\dfrac{1}{5}=$ ___
2) $2\dfrac{1}{8}=$ ___	7) $3\dfrac{1}{4}=$ ___	12) $6\dfrac{1}{2}=$ ___
3) $3\dfrac{1}{4}=$ ___	8) $6\dfrac{1}{10}=$ ___	13) $5\dfrac{4}{9}=$ ___
4) $3\dfrac{2}{9}=$ ___	9) $5\dfrac{7}{10}=$ ___	14) $9\dfrac{2}{3}=$ ___
5) $9\dfrac{3}{8}=$ ___	10) $9\dfrac{1}{2}=$ ___	15) $2\dfrac{3}{8}=$ ___

9

Directions: Simplify the following fractions.

$\dfrac{4}{6} = \dfrac{2}{3}$ $\dfrac{2}{10} = \underline{\quad}$	$\dfrac{21}{28} = \underline{\quad}$ $\dfrac{10}{15} = \underline{\quad}$	$\dfrac{6}{18} = \underline{\quad}$
$\dfrac{4}{8} = \underline{\quad}$ $\dfrac{16}{20} = \underline{\quad}$	$\dfrac{7}{14} = \underline{\quad}$ $\dfrac{6}{15} = \underline{\quad}$	$\dfrac{12}{20} = \underline{\quad}$

Adding Fractions & Subtracting Fractions

Directions: Solve the following problems. NO CALCULATOR! Put your answers in simplified form.

_1._ $\dfrac{4}{7} + \dfrac{10}{21} =$ $\dfrac{12}{21} + \dfrac{10}{21} = \dfrac{22}{21} = 1\dfrac{1}{21}$	2. $\dfrac{8}{9} + \dfrac{1}{3} =$	3. $\dfrac{11}{6} + \dfrac{4}{9} =$
4. $\dfrac{6}{12} + \dfrac{12}{4} =$	5. $\dfrac{4}{5} - \dfrac{7}{10} =$	6. $\dfrac{8}{11} + \dfrac{12}{5} =$
7. $\dfrac{10}{3} - \dfrac{2}{12} =$	8. $\dfrac{11}{6} + \dfrac{1}{10} =$	9. $\dfrac{3}{5} - \dfrac{6}{11} =$

Adding Fractions + Subtracting Fractions

Directions: Solve the following. NO CALCULATORS!! Show all work and simplify your answer!

Example:

$$1\frac{2}{5} + 3\frac{6}{7} =$$

$$1\frac{14}{35} + 3\frac{30}{35} = 4\frac{44}{35} = 5\frac{9}{35}$$

① $3\frac{1}{4} + 4\frac{1}{2} =$

② $2\frac{5}{6} + 5\frac{4}{7} =$

③ $2\frac{3}{5} + 6\frac{1}{4} =$

④ $4\frac{2}{3} + 4\frac{1}{6} =$

⑤ $3\frac{1}{2} + 3\frac{1}{5} =$

⑥ $23\frac{1}{2} - 18\frac{1}{6} =$

⑦ $19\frac{1}{2} - 4\frac{4}{5} =$

11

Directions: Solve the following. NO CALCULATORS!! Simplify your answer.

Example: $\frac{2}{3} \times 5 = ?$

make the whole number a fraction $\frac{5}{1}$ multiply the top numbers (numerators) $2 \times 5 = 10$ multiply the bottom numbers (denominators) $3 \times 1 = 3$ write your result $\frac{10}{3}$

1. $3 \times \frac{2}{9} =$	2. $4 \times \frac{3}{15} =$	3. $2 \times \frac{9}{19} =$
4. $6 \times \frac{3}{24} =$	5. $2 \times \frac{2}{5} =$	6. $1 \times \frac{5}{5} =$
7. $5 \times \frac{1}{7} =$	8. $10 \times \frac{1}{16} =$	9. $3 \times \frac{4}{9} =$
Example: $\frac{4}{5} \times \frac{2}{8} = ?$ multiply numerators / multiply denominators $\frac{4 \times 2}{5 \times 8} = \frac{8}{40} = \frac{1}{5}$ reduce final answer	10. $\frac{3}{6} \times \frac{3}{2} =$	11. $\frac{20}{40} \times \frac{2}{2} =$
12. $\frac{4}{7} \times \frac{5}{8} =$	13. $\frac{2}{6} \times \frac{6}{2} =$	14. $\frac{5}{10} \times \frac{2}{1} =$
15. $\frac{5}{25} \times \frac{4}{1} =$	16. $\frac{15}{17} \times \frac{6}{6} =$	17. $\frac{9}{9} \times \frac{1}{1} =$

12

Multiplying mixed numbers

Find the product.

1. $1\frac{2}{4} \times 3\frac{5}{6} =$ _____

2. $1\frac{1}{6} \times 2\frac{6}{12} =$ _____

3. $2\frac{1}{2} \times 3\frac{4}{5} =$ _____

4. $3\frac{1}{3} \times 1\frac{4}{10} =$ _____

5. $3\frac{3}{4} \times 3\frac{2}{9} =$ _____

6. $3\frac{5}{6} \times 2\frac{1}{2} =$ _____

7. $1\frac{1}{2} \times 3\frac{1}{2} =$ _____

8. $1\frac{8}{12} \times 3\frac{2}{10} =$ _____

9. $3\frac{2}{6} \times 3\frac{2}{3} =$ _____

10. $3\frac{4}{5} \times 2\frac{3}{4} =$ _____

11. $1\frac{3}{4} \times 1\frac{2}{4} =$ _____

12. $2\frac{4}{5} \times 1\frac{1}{12} =$ _____

13. $1\frac{5}{8} \times 2\frac{6}{8} =$ _____

14. $3\frac{2}{3} \times 1\frac{1}{2} =$ _____

13

1. Oliver played 2 rounds of a trivia game and scored 982 points. If he gained the same number of points each round, how many points did he score per round?

2. Roger has 365 baseball cards in 5 binders. If each binder has the same number of cards, how many cards are in each binder?

3. Chloe had 472 video games. If she placed the games into 8 different stacks, how many games would be in each stack?

4. An ice machine had 480 ice cubes in it. If you were filling up 8 ice chests and each chest got the same number of cubes, how many ice cubes would each chest get?

5. Faye is making bead necklaces. She has 606 beads and is making 2 necklaces with each necklace using the same number of beads. How many beads will each necklace use?

6. There are 545 students in a school. If the school has 5 grades and each grade had the same number of students, how many students were in each grade?

14

Multiplying Decimals

Directions: Multiply the following.

ex. 1.3 × 100 = 130	6.8 × 100 =	4.196 × 100 =
100 × 74.3 =	46.8 × 100 =	4.68 × 100 =
9.1 X 100 =	3.28 X 100 =	.5.095 × 100 =

Directions: Multiply the following.

1.8 × 1,000 =	2.1 × 1,000 =	9.097 × 1,000 =
27.4 × 1,000 =	1,000 × 10.81 =	27.4 × 1,000 =

Directions: Complete.

1.2 = 0.12 × __10__
 	
   = 0.012 × __100__
	360 = 36 × _____
	
	  = 3.6 × _____
	
	  = 0.36 × _____
		438 = _____ × 10
		
		  = _____ × 100
		
		  = _____ × 1,000

15

Powers of 10

Find the values of the following powers of 10 (eg. $10^2 = 100$).

a. $10^3 =$ _10×10×10 =1000_ f. $10^7 =$ _____

b. $10^5 =$ _____ g. $10^2 =$ _____

c. $10^6 =$ _____ h. $10^9 =$ _____

d. $10^4 =$ _____ i. $10^8 =$ _____

e. $10^1 =$ _____ j. $10^{10} =$ _____

Write the following in exponential form (eg. $100 = 10^2$).

a. $10,000 =$ _____ g. $100 =$ _____

b. $1,000 =$ _____ h. $1 \times 10 =$ _____

c. $10 \times 10 =$ _____ i. $100,000 =$ _____

d. $100 \times 100 =$ _____ j. $100 \times 10 =$ _____

e. $1,000,000 =$ _____ k. $100,000 =$ _____

f. $1,000 \times 1,000 =$ _____ l. $10,000 \times 10 =$ _____

Convert decimals to fractions.

Grade 5 Decimals Worksheet

Convert to fractions.

1. $0.83 = \dfrac{83}{100}$

2. $0.4 =$ _____

3. $0.24 =$ _____

4. $0.96 =$ _____

5. $0.6 =$ _____

6. $0.2 =$ _____

7. $0.7 =$ _____

8. $0.19 =$ _____

9. $0.95 =$ _____

10. $0.1 =$ _____

11. $0.23 =$ _____

12. $0.68 =$ _____

13. $0.2 =$ _____

14. $0.97 =$ _____

15. $0.94 =$ _____

16. $0.5 =$ _____

17

Convert fractions to decimals (denominators 10 or 100)

Grade 5 Decimals Worksheet

Convert to decimals.

1. $\dfrac{6}{10}$ = _0.6_

2. $\dfrac{41}{100}$ = _____

3. $\dfrac{76}{100}$ = _____

4. $\dfrac{3}{10}$ = _____

5. $\dfrac{36}{100}$ = _____

6. $\dfrac{7}{10}$ = _____

7. $\dfrac{25}{100}$ = _____

8. $\dfrac{4}{10}$ = _____

9. $\dfrac{54}{100}$ = _____

10. $\dfrac{1}{10}$ = _____

11. $\dfrac{37}{100}$ = _____

12. $\dfrac{52}{100}$ = _____

13. $\dfrac{71}{100}$ = _____

14. $\dfrac{21}{100}$ = _____
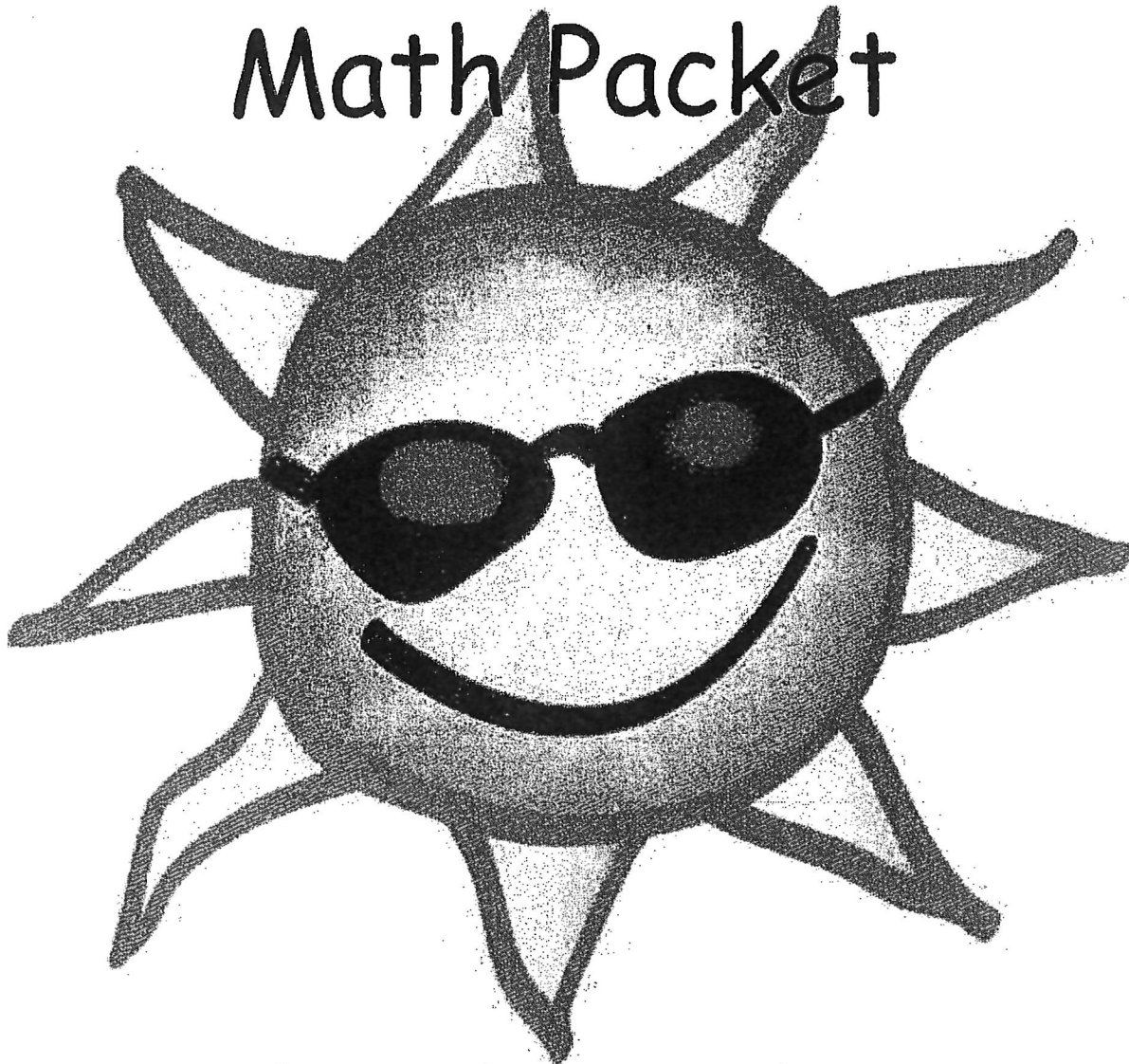
15. $\dfrac{9}{10}$ = _____

16. $\dfrac{79}{100}$ = _____

17. $\dfrac{91}{100}$ = _____

18. $\dfrac{5}{10}$ = _____

18

Summer

Math Packet

For students entering:

Math 6

Name: _____Answer Key_____

Concepts students should know before entering 6th Grade'.

Students should be advanced at these concepts:

Directions: Complete the following problems. NO CALCULATOR!

$$\begin{array}{r} 19 \\ 4\overline{)76} \\ -4 \\ \hline 36 \\ -36 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 21 \\ 2\overline{)42} \\ -4\downarrow \\ \hline 02 \\ -2 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 11 \\ 10\overline{)110} \\ -10\downarrow \\ \hline 10 \\ -10 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 11 \\ 12\overline{)132} \\ -12\downarrow \\ \hline 12 \\ -12 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 2 \\ 8\overline{)16} \\ -16 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 40 \\ 2\overline{)80} \\ -8\downarrow \\ \hline 00 \\ -0 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 4 \\ 9\overline{)36} \\ -36 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 7 \\ 6\overline{)42} \\ -42 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 72 \\ 2\overline{)144} \\ -14\downarrow \\ \hline 04 \\ -4 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 57 \\ 2\overline{)114} \\ -10\downarrow \\ \hline 14 \\ -14 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 35 \\ 2\overline{)70} \\ -6\downarrow \\ \hline 10 \\ -10 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 17 \\ 6\overline{)102} \\ -6\downarrow \\ \hline 42 \\ -42 \\ \hline 0 \end{array}$$

/

Long Division

Directions: Complete the following problems. NO CALCULATOR! SHOW ALL WORK!!

1.
```
        619
   5)3,095
    -30
     09
    - 5
      45
     -45
       0
```

2.
```
      0510
   3)1,530
    -15↓
     03
    - 3↓
      00
    -  0
       0
```

3.
```
       0503
   12)6,036
     -60↓
      03
    -  0↓
       36
      -36
        0
```

4.
```
      0509
   9)4,581
    -45↓
     08
    - 0↓
      81
     -81
       0
```

5.
```
      0775
   7)5,425
    -49↓
     52
    -49↓
      35
     -35
       0
```

6.
```
      0928
   8)7,424
    -72↓
     22
    -16↓
      64
     -64
       0
```

7.
```
      0808
   3)2,424
    -24↓
     02
    - 0↓
      24
     -24
       0
```

8.
```
       0208
   11)2,288
     -22↓
      08
    -  0↓
       88
      -88
        0
```

9.
```
      0907
   6)5,442
    -54↓
     04
    - 0↓
      42
     -42
       0
```

10.
```
      0707
   8)5,656
    -56↓
     05
    - 0↓
      56
     -56
       0
```

11.
```
      0520
   3)1,560
    -15↓
     06
    - 6↓
      00
    -00
      0
```

12.
```
      0801
   4)3,204
    -32↓
     00
    - 0↓
      04
     -04
       0
```

2

Order of Operation

Directions: Simplify the following. Remember your PEMDAS rules!

PEMDAS Rules

Evaluate the problem in the following order:

1) P - Parentheses

2) E - Exponents (Powers and Square Roots)

3) MD - Multiplication and Division (Left to Right)

4) AS - Addition and Subtraction (Left to Right)

You can remember the order by saying :

Please	Excuse	My	Dear	Aunt	Sally
a	x	u	i	d	u
r	p	l	v	d	b
e	o	t	i	i	t
n	n	i	s	l	r
t	e	p	i	i	a
h	n	l	o	o	c
e	t	i	n	n	t
s	s	c			i
e		a			o
s		t			n
		i			
		o			
		n			

$13 \times 13 - 4 + 10$

$169 - 4 + 10$

$165 + 10$

$\boxed{175}$

---

1. $18 - 11 + 19 \times 3$

$18 - 11 + 57$

$7 + 57$

64

---

2. $24 \div 8 \times 11 + 3$

$3 \times 11 + 3$

$33 + 3$

36

---

3. $2 + 11 \times 17 - 12$

$2 + 187 - 12$

$189 - 12$

177

---

4. $9 + 4 \times 12 + 15$

$9 + 48 + 15$

$57 + 15$

72

---

5. $16 \times 3 - 2 + 3$

$48 - 2 + 3$

$46 + 3$

49

---

6. $16 + 9 - 10 \div 5$

$16 + 9 - 2$

$25 - 2$

23

---

7. $16 \div 2 + 19 - 16$

$8 + 19 - 16$

$27 - 16$

11

3

Directions: Simplify the following. Remember your PEMDAS rules!

$7 \times (5 \times 10 + 4) - 7$

$7 \times (50 + 4) - 7$

$7 \times 54 - 7$

$378 - 7$

$\boxed{371}$

---

1. $(8 + 23 - 3) \div (13 - 6)$

$(31 - 3) \div 7$

$28 \div 7$

4

---

2. $(15 - 3) \times (10 + 3) - 4$

$12 \times 13 - 4$

$156 - 4$

152

---

3. $(16 + 4) + (11 + 15 \div 5)$

$20 + (11 + 3)$

$20 + 14$

34

---

4. $(14 + 29 - 3) \div 20 - 2$

$(43 - 3) \div 20 - 2$

$40 \div 20 - 2$

$2 - 2$

0

---

5. $(15 + 18 - 3) \div (15 \times 2)$

$(33 - 3) \div 30$

$30 \div 30$

1

---

6. $(8 + 4) + (10 + 14 \div 7)$

$12 + (10 + 2)$

$12 + 12$

24

---

7. $(12 + 22 - 2) + 16 - 2$

$(34 - 2) + 16 - 2$

$32 + 16 - 2$

$48 - 2$

46

Coordinate System

Directions: Write the point that is located at each ordered pair.

1) (6, 2)   ___O___   2) (6, 8)   ___T___

3) (10, 1)   ___P___   4) (4, 5)   ___E___

5) (9, 7)   ___S___   6) (2, 3)   ___Y___

7) (1, 6)   ___J___   8) (5, 7)   ___Q___

9) (2, 1)   ___U___   10) (7, 4)   ___I___
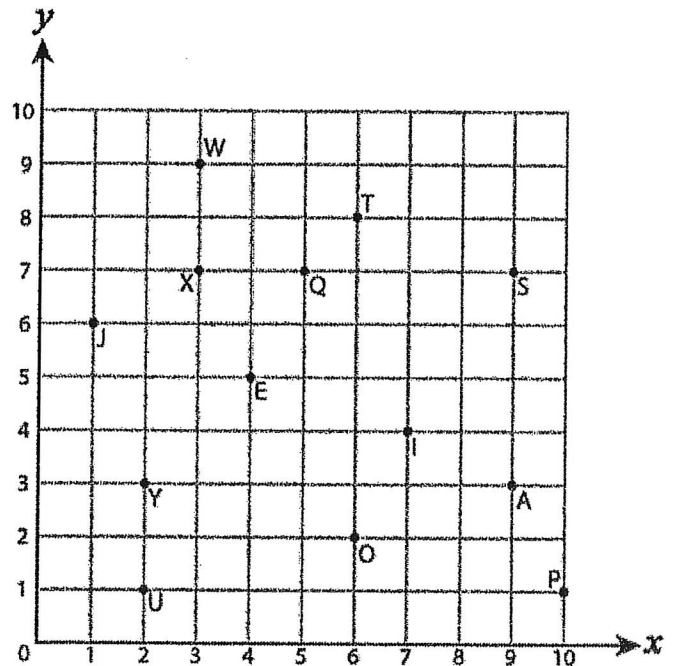
Directions: Write the ordered pair for each point.
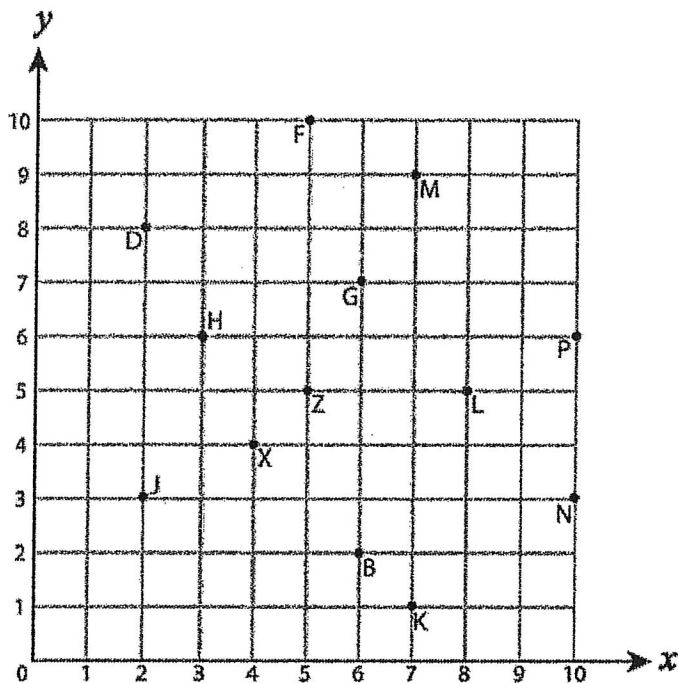
11) N (10 , 3)   12) X (4 , 4)

13) B (6 , 2)   14) L (8 , 5)

15) Z (5 , 5)   16) P (10 , 6)

17) D (2 , 8)   18) M (7 , 9)

19) J (2 , 3)   20) H (3 , 6)

5

Adding & Subtracting Decimals

Directions:Solve the following. DO NOT USE A CALCULATOR!!

Example 1 Add Decimals

Find the value of 3.9 + 2.45.

STEP 1 Rewrite the problem vertically in order to align the decimal points in each number. Add a zero to 3.9 as a placeholder.

$$\begin{array}{r} 3.90 \\ + 2.45 \end{array}$$

STEP 2 Begin by adding the digits in the hundredths place.

$$\begin{array}{r} 3.90 \\ + 2.45 \\ \hline 5 \end{array}$$

STEP 3 Add the digits in the tenths place. Since 9 + 4 = 13, regroup 10 tenths as 1 one.

$$\begin{array}{r} \overset{1}{3}.90 \\ + 2.45 \\ \hline .35 \end{array}$$

STEP 4 Place the decimal point in the answer. Add the digits in the ones place.

$$\begin{array}{r} \overset{1}{3}.90 \\ + 2.45 \\ \hline 6.35 \end{array}$$

3.9 + 2.45 = 6.35

Example 2 Subtract Decimals

Find the value of 8.6 − 4.55.

STEP 1 Rewrite the problem vertically in order to align the decimal points in each number. Add a zero to 8.6 as a placeholder.

$$\begin{array}{r} 8.60 \\ - 4.55 \end{array}$$

STEP 2 Begin by subtracting the digits in the hundredths place. Regroup 1 tenth as 10 hundreds so that you can subtract.

$$\begin{array}{r} \overset{5\ 10}{8.6\cancel{0}} \\ - 4.55 \\ \hline 5 \end{array}$$

STEP 3 Subtract the digits in the tenths place.

$$\begin{array}{r} \overset{5\ 10}{8.6\cancel{0}} \\ - 4.55 \\ \hline 05 \end{array}$$

STEP 4 Place the decimal point in the answer. Subtract the digits in the ones place.

$$\begin{array}{r} \overset{5\ 10}{8.6\cancel{0}} \\ - 4.55 \\ \hline 4.05 \end{array}$$

8.6 − 4.55 = 4.05

1. 4.59 + 1.02	2. 9.04 − 6.32	3. 5.8 + 0.26
$\begin{array}{r}\overset{1}{\ }\\ 4.59 \\ +1.02 \\ \hline 5.61\end{array}$	$\begin{array}{r}\overset{8\ 10}{9.\cancel{0}4} \\ -6.32 \\ \hline 2.72\end{array}$	$\begin{array}{r}\overset{1}{\ }\\ 5.80 \\ +0.26 \\ \hline 6.06\end{array}$
4. 6.5 − 3.7	5. 0.4 + 8.61	6. 3.28 − 1.09
$\begin{array}{r}\overset{5\ 15}{6.5} \\ -3.7 \\ \hline 2.8\end{array}$	$\begin{array}{r}\overset{1}{\ }\\ 0.40 \\ +8.61 \\ \hline 9.01\end{array}$	$\begin{array}{r}\overset{1\ 18}{3.\cancel{28}} \\ -1.09 \\ \hline 2.19\end{array}$
7. 5.7 + 4.63	8. 6.3 − 2.99	9. 8.07 + 0.86
$\begin{array}{r}\overset{1}{\ }\\ 5.70 \\ +4.63 \\ \hline 10.33\end{array}$	$\begin{array}{r}\overset{5\ 12\ 10}{6.\cancel{30}} \\ -2.99 \\ \hline 3.31\end{array}$	$\begin{array}{r}\overset{1}{\ }\\ 8.07 \\ +0.86 \\ \hline 8.93\end{array}$
10. 7.2 − 5.98	11. 7.02 + 7.3	12. 5.33 − 2.68
$\begin{array}{r}\overset{11}{\ }\\ \overset{6\ 11\ 2\ 10}{7.20} \\ -5.98 \\ \hline 1.22\end{array}$	$\begin{array}{r}7.02 \\ +7.30 \\ \hline 14.32\end{array}$	$\begin{array}{r}\overset{4\ 12\ 13}{5.33} \\ -2.68 \\ \hline 2.65\end{array}$

6

Name __Answers__   Date _____

Multiplying and Dividing Decimals

Find the product or quotient. Show ALL work in the space provided or on a separate piece of paper.

1) 3.94 • 0.4

$$\begin{array}{r} {}^{3}3^{1}94 \\ \times\ \ \ 4 \\ \hline .1576 \end{array}$$

1.576.

$$\boxed{1.576}$$

2) 0.144 ÷ 12

$$\begin{array}{r} 0.012 \\ 12\overline{)0.144} \\ \underline{12\downarrow} \\ 24 \\ \underline{-24} \\ 0 \end{array}$$

$$\boxed{0.012}$$

3) 0.587 • 8

$$\begin{array}{r} {}_{6}5{}^{5}87 \\ \times\ \ \ 8 \\ \hline 4696 \end{array}$$

4.696

$$\boxed{4.696}$$

4) 40.8 ÷ 2

$$\begin{array}{r} 20.4 \\ 2\overline{)40.8} \\ \underline{-4}\downarrow \\ 00 \\ \underline{-0}\downarrow \\ 8 \\ \underline{8} \\ 0 \end{array}$$

$$\boxed{20.4}$$

Read each problem carefully. Show ALL work in the space provided or on a separate piece of paper.

5) A deli charges $3.45 for a pound of turkey. If Tim wants to purchase 2.4 pounds, how much will it cost?

$$\begin{array}{r} {}^{21}345 \\ \times\ \ \ 24 \\ \hline 1380 \\ +\ 6900 \\ \hline 8.280 \end{array}$$

It will cost Tim $8.28 for 2.4 pounds of turkey.

7

6) The average mail carrier walks 4.8 kilometers in a workday. How far do most mail carriers walk in a 6-day week? There are 27 working days in July, so how far will a mail carrier walk in July?

```
   4 48          5 48
 x   6          x 27
   288          336
                9 60
              129.6
```

Most mail carriers walk 28.8 Kms in 6 days and 129.6 kms in July.

7) Anna is saving $6 a week to buy a computer game that costs $57.12. How many weeks will she have to save to buy the game?

```
      9.52
  6 )57.12
    -54
      31
     -30
      12
```

Anna will have to save for 10 weeks before she has enough for the game.

8) Ben ran a 19.6-mile race last Saturday. His average speed during the race was 7 miles per hour. How long did it take Ben to finish the race?

```
      2.8
  7 )19.6
    -14
      56
     -56
       0
```

It took Ben 2.8 hrs to run the race.

(or 2 hrs and 48 min)

9) Antonio bought 4.5 pounds of cashews. They cost $1.40 per pound. How much did Antonio pay in total for the cashews?

```
      4.5
   x  1.4
      180
     450
     63.0
```

Antonio paid $6.30 for the cashews.

8

Mixed Numbers & Improper Fractions

Directions: _Convert the following improper fractions to mixed numbers._ _Write your answer on the line next to each problem._

1) $\dfrac{9}{4}$ = $2\frac{1}{4}$	6) $\dfrac{11}{5}$ = $2\frac{1}{5}$	11) $\dfrac{71}{10}$ = $7\frac{1}{10}$
2) $\dfrac{82}{9}$ = $9\frac{1}{9}$	7) $\dfrac{61}{6}$ = $10\frac{1}{6}$	12) $\dfrac{29}{7}$ = $4\frac{1}{7}$
3) $\dfrac{31}{5}$ = $6\frac{1}{5}$	8) $\dfrac{7}{3}$ = $2\frac{1}{3}$	13) $\dfrac{55}{6}$ = $9\frac{1}{6}$
4) $\dfrac{13}{3}$ = $4\frac{1}{3}$	9) $\dfrac{50}{7}$ = $7\frac{1}{7}$	14) $\dfrac{21}{10}$ = $2\frac{1}{10}$
5) $\dfrac{29}{7}$ = $4\frac{1}{7}$	10) $\dfrac{17}{4}$ = $4\frac{1}{4}$	15) $\dfrac{25}{4}$ = $6\frac{1}{4}$

Directions: _Convert the following improper fractions to mixed numbers._ _Write your answer on the line next to each problem._

1) $5\frac{1}{3}$ = $\dfrac{16}{3}$	6) $2\frac{1}{2}$ = $\dfrac{5}{2}$	11) $9\frac{1}{5}$ = $\dfrac{46}{5}$
2) $2\frac{1}{8}$ = $\dfrac{17}{8}$	7) $3\frac{1}{4}$ = $\dfrac{13}{4}$	12) $6\frac{1}{2}$ = $\dfrac{13}{2}$
3) $3\frac{1}{4}$ = $\dfrac{13}{4}$	8) $6\frac{1}{10}$ = $\dfrac{61}{10}$	13) $5\frac{4}{9}$ = $\dfrac{49}{9}$
4) $3\frac{2}{9}$ = $\dfrac{29}{9}$	9) $5\frac{7}{10}$ = $\dfrac{57}{10}$	14) $9\frac{2}{3}$ = $\dfrac{29}{3}$
5) $9\frac{3}{8}$ = $\dfrac{75}{8}$	10) $9\frac{1}{2}$ = $\dfrac{19}{2}$	15) $2\frac{3}{8}$ = $\dfrac{19}{8}$

9

Directions: Simplify the following fractions.

$\dfrac{4}{6} = \dfrac{2}{3}$	$\dfrac{2}{10} = \dfrac{1}{5}$	$\dfrac{21}{28} = \dfrac{3}{4}$	$\dfrac{10}{15} = \dfrac{2}{3}$	$\dfrac{6}{18} = \dfrac{1}{3}$
$\dfrac{4}{8} = \dfrac{1}{2}$	$\dfrac{16}{20} = \dfrac{4}{5}$	$\dfrac{7}{14} = \dfrac{1}{2}$	$\dfrac{6}{15} = \dfrac{2}{5}$	$\dfrac{12}{20} = \dfrac{3}{5}$

Adding Fractions & Subtracting Fractions

Directions: Solve the following problems. NO CALCULATOR! Put your answers in simplified form.

1. $\dfrac{4}{7} + \dfrac{10}{21} =$ $\dfrac{12}{21} + \dfrac{10}{21} = \dfrac{22}{21} = 1\dfrac{1}{21}$	2. $\dfrac{8}{9} + \dfrac{1}{3} =$ $\dfrac{24}{27} + \dfrac{9}{27} = \dfrac{33}{27} = 1\dfrac{6}{27}$ $ = 1\dfrac{2}{9}$	3. $\dfrac{11}{6} + \dfrac{4}{9} =$ $\dfrac{33}{18} + \dfrac{8}{18} = \dfrac{41}{18} = 2\dfrac{5}{18}$
4. $\dfrac{6}{12} + \dfrac{12}{4} =$ $\dfrac{6}{12} + 3 = 3\dfrac{6}{12} = 3\dfrac{1}{2}$	5. $\dfrac{4}{5} - \dfrac{7}{10} =$ $\dfrac{8}{10} - \dfrac{7}{10} = \dfrac{1}{10}$	6. $\dfrac{8}{11} + \dfrac{12}{5} =$ $\dfrac{40}{55} + \dfrac{132}{55} = \dfrac{172}{55} = 3\dfrac{7}{55}$
7. $\dfrac{10}{3} - \dfrac{2}{12} =$ $\dfrac{20}{6} - \dfrac{1}{6} = \dfrac{19}{6} = 3\dfrac{1}{6}$	8. $\dfrac{11}{6} + \dfrac{1}{10} =$ $\dfrac{55}{30} + \dfrac{3}{30} = \dfrac{58}{30} = 1\dfrac{28}{30}$ $ = 1\dfrac{14}{15}$	9. $\dfrac{3}{5} - \dfrac{6}{11} =$ $\dfrac{33}{55} - \dfrac{30}{55} = \dfrac{3}{55}$

10

Adding Fractions & Subtracting Fractions

Directions: Solve the following. NO CALCULATORS!! Show all work and simplify your answer!

Example:

$$1\frac{2}{5} + 3\frac{6}{7} =$$

$$1\frac{14}{35} + 3\frac{36}{35} = 4\frac{44}{35} = 5\frac{9}{35}$$

① $3\frac{1}{4} + 4\frac{1}{2} =$

$$3\frac{1}{4} + 4\frac{2}{4} = 7\frac{3}{4}$$

② $2\frac{5}{6} + 5\frac{4}{7} =$

$$2\frac{35}{42} + 5\frac{24}{42} = 7\frac{59}{42} = 8\frac{17}{42}$$

③ $2\frac{3}{5} + 6\frac{1}{4} =$

$$2\frac{12}{20} + 6\frac{5}{20} = 8\frac{17}{20}$$

④ $4\frac{2}{3} + 4\frac{1}{6} =$

$$4\frac{4}{6} + 4\frac{1}{6} = 8\frac{5}{6}$$

⑤ $3\frac{1}{2} + 3\frac{1}{5} =$

$$3\frac{5}{10} + 3\frac{2}{10} = 6\frac{7}{10}$$

⑥ $23\frac{1}{2} - 18\frac{1}{6} =$

$$23\frac{3}{6} - 18\frac{1}{6} = 5\frac{2}{6} = 5\frac{1}{3}$$

⑦ $19\frac{1}{2} - 4\frac{4}{5} =$

$$19\frac{5}{10} - 4\frac{8}{10} = 18\frac{15}{10} - 4\frac{8}{10}$$

$$= 14\frac{7}{10}$$

11

Example: $\frac{2}{3} \times 5 = ?$

make the whole number a fraction $\frac{5}{1}$ multiply the top numbers (numerators) $2 \times 5 = 10$ multiply the bottom numbers (denominators) $3 \times 1 = 3$ write your result $\frac{10}{3}$

---

1. $3 \times \frac{2}{9} =$

$\frac{13}{1} \times \frac{2}{93} = \frac{2}{3}$

2. $4 \times \frac{3}{15} =$

$\frac{4}{1} \times \frac{31}{155} = \frac{4}{5}$

3. $2 \times \frac{9}{19} =$

$\frac{2}{1} \times \frac{9}{19} = \frac{18}{19}$

---

4. $6 \times \frac{3}{24} =$

$\frac{16}{1} \times \frac{3}{244} = \frac{3}{4}$

5. $2 \times \frac{2}{5} =$

$\frac{2}{1} \times \frac{2}{5} = \frac{4}{5}$

6. $1 \times \frac{5}{5} =$

$\frac{1}{1} \times \frac{51}{51} = \frac{1}{1} = 1$

---

7. $5 \times \frac{1}{7} =$

$\frac{5}{1} \times \frac{1}{7} = \frac{5}{7}$

8. $10 \times \frac{1}{16} =$

$\frac{510}{1} \times \frac{1}{168} = \frac{5}{8}$

9. $3 \times \frac{4}{9} =$

$\frac{13}{1} \times \frac{4}{93} = \frac{4}{3} = 1\frac{1}{3}$

Example: $\frac{4}{5} \times \frac{2}{8} = ?$

multiply numerators multiply denominators reduce final answer

$\frac{4 \times 2}{5 \times 8} = \frac{8}{40} = \frac{1}{5}$

10. $\frac{3}{6} \times \frac{3}{2} =$

$\frac{13}{26} \times \frac{3}{2} = \frac{3}{4}$

11. $\frac{20}{40} \times \frac{2}{2} =$

$\frac{120}{240} \times \frac{21}{21} = \frac{1}{2}$

---

12. $\frac{4}{7} \times \frac{5}{8} =$

$\frac{14}{7} \times \frac{5}{82} = \frac{5}{14}$

13. $\frac{2}{6} \times \frac{6}{2} =$

$\frac{12}{16} \times \frac{61}{21} = \frac{1}{1} = 1$

14. $\frac{5}{10} \times \frac{2}{1} =$

$\frac{15}{1210} \times \frac{21}{1} = \frac{1}{1} = 1$

---

15. $\frac{5}{25} \times \frac{4}{1} =$

$\frac{15}{525} \times \frac{4}{1} = \frac{4}{5}$

16. $\frac{15}{17} \times \frac{6}{6} =$

$\frac{15}{17} \times \frac{61}{61} = \frac{15}{17}$

17. $\frac{9}{9} \times \frac{1}{1} =$

$\frac{19}{19} \times \frac{1}{1} = \frac{1}{1} = 1$

12

Multiplying mixed numbers

Grade 5 Fractions Worksheet

Find the product.

1. $1\frac{2}{4} \times 3\frac{5}{6} =$ _5 3/4_

2. $1\frac{1}{6} \times 2\frac{6}{12} =$ _2 11/12_

3. $2\frac{1}{2} \times 3\frac{4}{5} =$ _9 1/2_

4. $3\frac{1}{3} \times 1\frac{4}{10} =$ _4 2/3_

5. $3\frac{3}{4} \times 3\frac{2}{9} =$ _12 1/12_

6. $3\frac{5}{6} \times 2\frac{1}{2} =$ _9 7/12_

7. $1\frac{1}{2} \times 3\frac{1}{2} =$ _5 1/4_

8. $1\frac{8}{12} \times 3\frac{2}{10} =$ _5 1/3_

9. $3\frac{2}{6} \times 3\frac{2}{3} =$ _12 2/9_

10. $3\frac{4}{5} \times 2\frac{3}{4} =$ _10 9/20_

11. $1\frac{3}{4} \times 1\frac{2}{4} =$ _2 5/8_

12. $2\frac{4}{5} \times 1\frac{1}{12} =$ _3 1/30_

13. $1\frac{5}{8} \times 2\frac{6}{8} =$ _4 15/32_

14. $3\frac{2}{3} \times 1\frac{1}{2} =$ _5 1/2_

Directions: Solve each of the following problems. NO CALCULATORS!! SHOW ALL WORK!

1. Oliver played 2 rounds of a trivia game and scored 982 points. If he gained the same number of points each round, how many points did he score per round?

   2 rounds → 982 points
   1 round → 982 ÷ 2 = 491

   491 points per round

2. Roger has 365 baseball cards in 5 binders. If each binder has the same number of cards, how many cards are in each binder?

   5 binders → 365 cards
   1 binder → 365 ÷ 5 = 73

   73 cards per binder

3. Chloe had 472 video games. If she placed the games into 8 different stacks, how many games would be in each stack?

   8 stacks → 472 games
   1 stacks → 472 ÷ 8 = 59

   59 games per stack

4. An ice machine had 480 ice cubes in it. If you were filling up 8 ice chests and each chest got the same number of cubes, how many ice cubes would each chest get?

   480 ÷ 8 = 60

   60 ice cubes per ice chest

5. Faye is making bead necklaces. She has 606 beads and is making 2 necklaces with each necklace using the same number of beads. How many beads will each necklace use?

   606 ÷ 2 = 303

   303 beads per necklace

6. There are 545 students in a school. If the school has 5 grades and each grade had the same number of students, how many students were in each grade?

   5 grades → 545 students
   1 grade → 545 ÷ 5 = 109

   109 students per grades

14

Multiplying Decimals

Directions: Multiply the following.

ex. 1.3 × 100 = 130	6.8 × 100 = 680	4.196 × 100 = 419.6
100 × 74.3 = 7,430	46.8 × 100 = 4,680	4.68 × 100 = 468
9.1 X 100 = 910	3.28 X 100 = 328	5.095 × 100 = 509.5

Directions: Multiply the following.

1.8 × 1,000 = 1,800	2.1 × 1,000 = 2,100	9.097 × 1,000 = 9,097
27.4 × 1,000 = 27,400	1,000 × 10.81 = 10,810	27.4 × 1,000 = 27,400

Directions: Complete.

1.2 = 0.12 × __10__
    = 0.012 × __100__
	360 = 36 × __10__
	  = 3.6 × __100__
	  = 0.36 × __1,000__
		438 = __43.8__ × 10
		  = __4.38__ × 100
		  = __0.438__ × 1,000

15

Powers of 10

Find the values of the following powers of 10 (eg. $10^2 = 100$).

a. $10^3 = 1,000$

f. $10^7 = 10,000,000$

b. $10^5 = 100,000$

g. $10^2 = 100$

c. $10^6 = 1,000,000$

h. $10^9 = 1,000,000,000$

d. $10^4 = 10,000$

i. $10^8 = 100,000,000$

e. $10^1 = 10$

j. $10^{10} = 10,000,000,000$

Write the following in exponential form (eg. $100 = 10^2$).

a. $10,000 = 10^4$

g. $100 = 10^2$

b. $1,000 = 10^3$

h. $1 \times 10 = 10^1 = 10$

c. $10 \times 10 = 10^2$

i. $100,000 = 10^5$

d. $100 \times 100 = 10^4$

j. $100 \times 10 = 10^3$

e. $1,000,000 = 10^6$

k. $100,000 = 10^5$

f. $1,000 \times 1,000 = 10^6$

l. $10,000 \times 10 = 10^5$

Convert decimals to fractions.

Grade 5 Decimals Worksheet

Convert to fractions.

1. $0.83 = \frac{83}{100}$ _____

2. $0.4 = \frac{4}{10}$ _____

3. $0.24 = \frac{24}{100}$ _____

4. $0.96 = \frac{96}{100}$ _____

5. $0.6 = \frac{6}{10}$ _____

6. $0.2 = \frac{2}{10}$ _____

7. $0.7 = \frac{7}{10}$ _____

8. $0.19 = \frac{19}{100}$ _____

9. $0.95 = \frac{95}{100}$ _____

10. $0.1 = \frac{1}{10}$ _____

11. $0.23 = \frac{23}{100}$ _____

12. $0.68 = \frac{68}{100}$ _____

13. $0.2 = \frac{2}{10}$ _____

14. $0.97 = \frac{97}{100}$ _____

15. $0.94 = \frac{94}{100}$ _____

16. $0.5 = \frac{5}{10}$ _____

Convert fractions to decimals (denominators 10 or 100)

Grade 5 Decimals Worksheet

Convert to decimals.

1. $\dfrac{6}{10}$ = 0.6

2. $\dfrac{41}{100}$ = 0.41

3. $\dfrac{76}{100}$ = 0.76

4. $\dfrac{3}{10}$ = 0.3

5. $\dfrac{36}{100}$ = 0.36

6. $\dfrac{7}{10}$ = 0.7

7. $\dfrac{25}{100}$ = 0.25

8. $\dfrac{4}{10}$ = 0.4

9. $\dfrac{54}{100}$ = 0.54

10. $\dfrac{1}{10}$ = 0.1

11. $\dfrac{37}{100}$ = 0.37

12. $\dfrac{52}{100}$ = 0.52

13. $\dfrac{71}{100}$ = 0.71

14. $\dfrac{21}{100}$ = 0.21

15. $\dfrac{9}{10}$ = 0.9

16. $\dfrac{79}{100}$ = 0.79

17. $\dfrac{91}{100}$ = 0.91

18. $\dfrac{5}{10}$ = 0.5

18