THINGS YOU SHOULD KNOW

Measurement Conversions:

Metric Length	Metric Weight	Metric Capacity
10 mm = 1 cm 100 cm = 1 m 1,000 mm = 1 m 1,000 m = 1 km	1 kg = 1,000 g 1 g = 1,000 mg	1 kL = 1,000 L 1 L = 1,000 mL

Standard Length	Standard Weight	Metric Capacity
1 mi. = 1,700 yd. 1 mi. = 5,280 ft. 1 yd. = 3 ft. 1 ft. = 12 in.	16 oz. = 1 lb. 1 T = 2,000 lbs.	1 gal = 4 qt. 1 gal = 128 fl oz. 1 qt. = 2 pts. 1 pt. = 2 c. 1 c. = 8 fl oz.

Formulas:

Area of squares and rectangles: $A = l \cdot w$

Volume of rectangular prisms: $V = l \cdot w \cdot h$

Order of Operations:

P : Parenthesis

E : Exponents

MD : Multiplication OR Division (from left to right)

AS : Addition OR Subtraction (from left to right)

Decimal Operations:

	The Steps
Add	• Line up the decimals. • Fill in empty spaces with a zero. • Add. • Drop the decimal down into your answer.
Subtract	• Line up the decimals. • Fill in empty spaces with a zero. • Subtract. • Drop the decimal down into your answer.
Multiply	• Multiply as you normally would. • Count the number of decimal places in the factors. • The product should have the same number of decimal places as the factors.
Divide	• Divide as you normally would. • Float the decimal up into your answer.

Fraction Operations:

	The Steps
Add	• Re-write each fraction with the LCD. • Add the numerators. • Simplify.
Subtract	• Re-write mixed numbers as improper fractions. • Re-write each fraction with the LCD. • Subtract the numerators. • Simplify.
Multiply	• Re-write mixed numbers as improper fractions. • Multiply straight across. • Simplify.
Divide	• Re-write mixed numbers as improper fractions. • Flip the second fraction. • Change the division sign to multiplication. • Multiply straight across. • Simplify.

❯❯❯ SIMPLIFYING EXPRESSIONS

Directions: Simplify each expression using the order of operations.

1) $60 - (2 \cdot 4) - 9$	2) $2[3 + 2(5 - 1)]$	3) $10 + (6 \div 2) - 4$	4) $6 + 2[5 + (2 \cdot 3)]$
5) $6(2 + 3) - 3(8 - 2)$	6) $15 + 3[2(5 + 4) - 2]$	7) $2(5) - 10$	8) $18 - 2[14 - 3(2)]$
9) $2 + 14 \cdot 2 \div 4$	10) $81 \div 27 \cdot (8 - 5)$	11) $\dfrac{15 + 30}{6 - 1}$	12) $24 - 2(9)$
13) $4 + 2(3 \cdot 4)$	14) $40 \div 4 \cdot (3 - 2)$	15) $(16 - 4) \cdot 4 + 3$	16) $120 - 5[2(3 \cdot 2) - 2]$

⟫⟫⟩ WRITING EXPRESSIONS

Directions: Write an expression to represent each verbal phrase.

1) Subtract 9 and 2, then multiply by 4.	2) Divide 8 by 2 and then add 1.	3) Triple 4 and then add 6.
4) Add 2 and 8 and then multiply by 2.	5) Double 6 and then divide by 3.	6) Add 4, 6 and 13.
7) Subtract 9 and 2 and add 5.	8) 4 plus the product of 2 and 7.	9) The sum of 6 times 5 and 9 minus 2.
10) 8 less than the quotient of 20 and 5.	11) The product of 4 and triple the number 2.	12) Multiply 5 and 7 and then divide by 5.
13) The difference of four times four and six.	14) 4 more than the difference of 10 and 2.	15) 20 divided by the product of 2 and 4.

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MULTI-DIGIT MULTIPLICATION

1) 452 • 82	2) 5,212 • 40	3) 326 • 30
4) 182 • 63	5) 948 • 45	6) 415 • 12
7) 1,255 • 81	8) 4,124 • 22	9) 1,800 • 45

10) A box contains 32 candy bars. How many candy bars would be in a shipment of 563 boxes?

11) 164 books were sold in a bookstore today. If the same number were sold each day, how many books would be sold after 24 days?

12) A stadium has 1,200 rows of seats. Each row has 82 seats. How many people can fit in the stadium?

For #1 – 2: Create a line plot with the given information.

1. The ages of kids in an art club:

6, 8, 9, 8, 7, 10, 8, 9, 7, 7, 6, 9, 10, 10, 8, 8

⟵————————————————————⟶

2. The height of flowers in a garden:

12, 16, 17, 15, 16, 14, 15, 16, 17, 14, 14, 16, 19, 12, 14, 17

⟵————————————————————⟶

Use the line plot below to answer # 3 – 5.

| 40 | 50 | 60 | 70 | 80 | 90 | 100 |
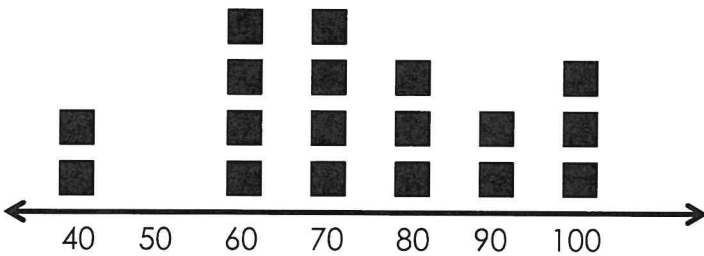
3. The line plot shows test scores for a 10 question quiz. How many students scored higher than 70%?

4. How many students got a perfect score?

5. How many students scored 60% or lower?

⟫⟫⟫ MULTIPLYING FRACTIONS

|			
1) $\dfrac{2}{5} \cdot \dfrac{7}{10}$	2) $\dfrac{2}{3} \cdot 8$	3) $\dfrac{5}{6} \cdot \dfrac{1}{2}$	4) $10 \cdot \dfrac{4}{5}$
5) $3\dfrac{1}{2} \cdot 4$	6) $6\dfrac{1}{8} \cdot 2\dfrac{1}{2}$	7) $4\dfrac{2}{3} \cdot 6\dfrac{1}{4}$	8) $5\dfrac{1}{2} \cdot 5\dfrac{1}{2}$
9) $8\dfrac{1}{3} \cdot 2\dfrac{1}{4}$	10) $3\dfrac{3}{5} \cdot 6\dfrac{1}{5}$	11) $9\dfrac{1}{2} \cdot 1\dfrac{7}{10}$	12) $8 \cdot 2\dfrac{1}{2}$

13) You ran $4\dfrac{1}{2}$ times around a $2\dfrac{1}{4}$ mile track. How far did you run?	14) A car drove $5\dfrac{3}{5}$ times around a $2\dfrac{1}{8}$ mile track. How far did the car travel?

⊗⊗⊗ AREA OF QUADRILATERALS

Directions: Find the area of each shape. Figures are not drawn to scale.

1)

4 in.

9 in.

2)

6.5 ft.

3)

2.15 cm

8 cm

4)

4¾ in.

12½ in.

5)

3.4 m

6.8 m

6)

2.9 yd.

15 yd.

7)

8 in.

8¼ in.

8)

4¼ ft.

10 ³/₅ ft.

26
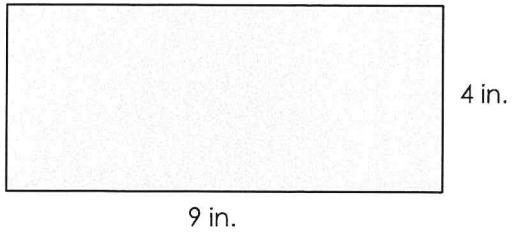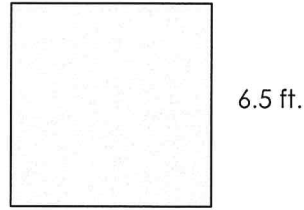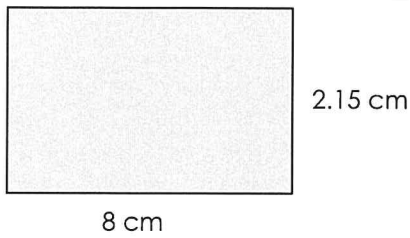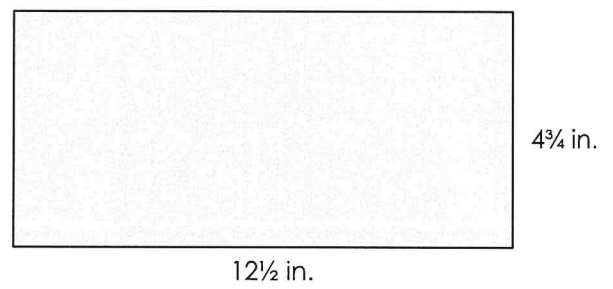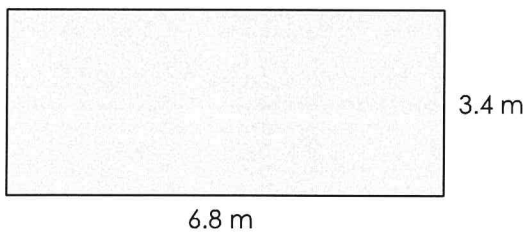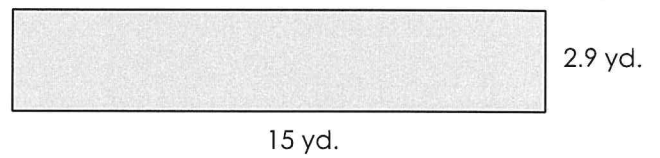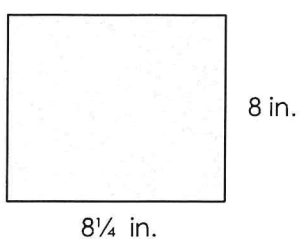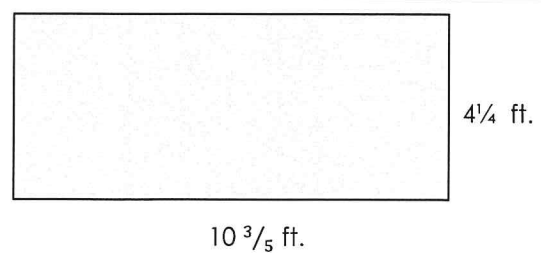
Factor Rainbows

MATH MONKS

Write each pair of factors for the number in the rainbow.
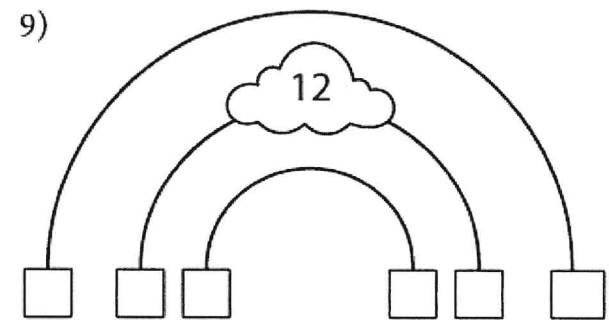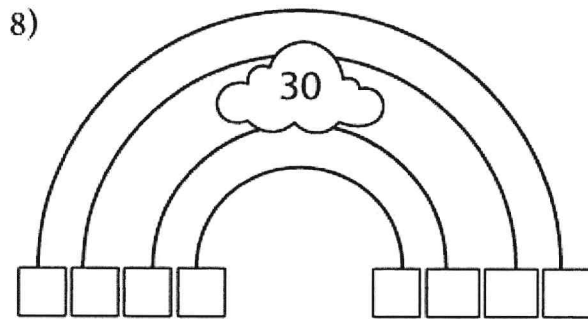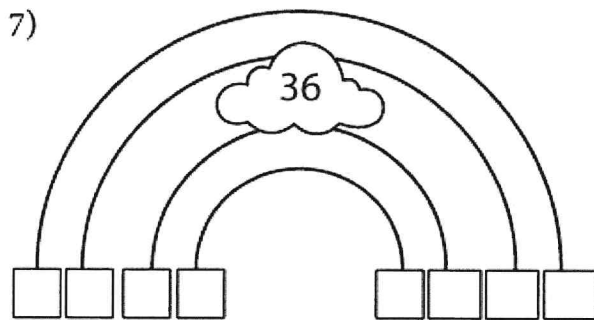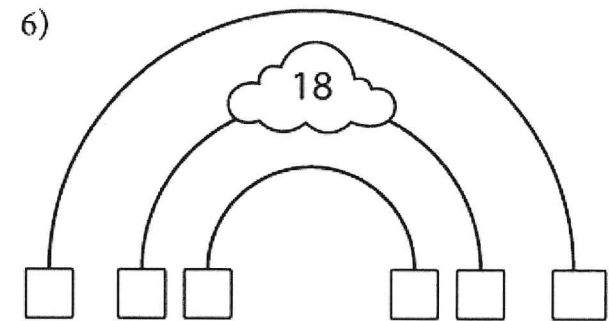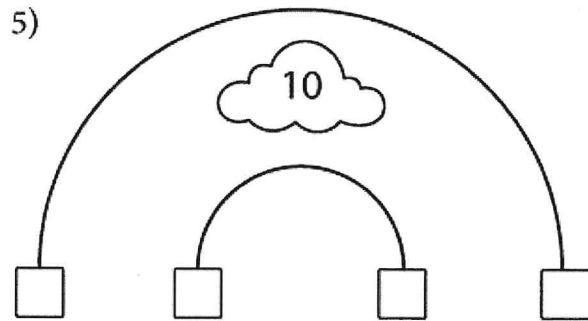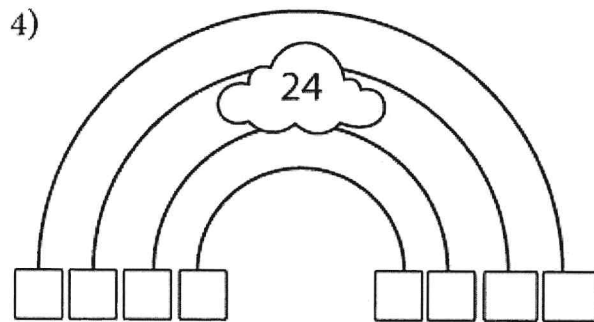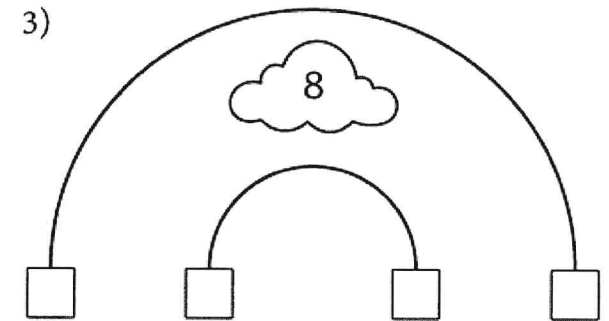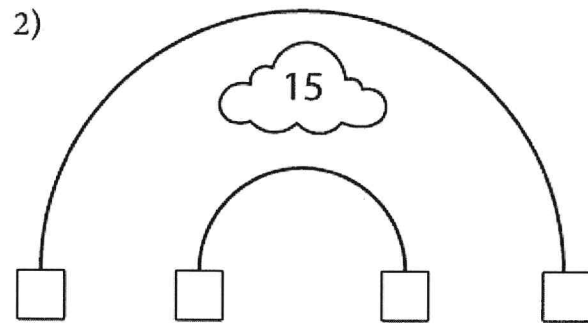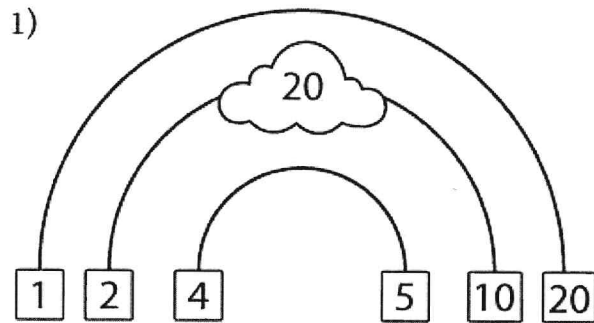
1) 20
1 2 4 5 10 20

2) 15

3) 8

4) 24

5) 10

6) 18

7) 36

8) 30

9) 12

Division Worksheet

1 a. _____

$2{\overline{)7\ 0\ 4\ 8}}$

1 b. _____

$7{\overline{)3\ 0\ 5\ 9}}$

1 c. _____

$7{\overline{)7\ 9\ 8\ 0}}$

2 a. _____

$3{\overline{)1\ 4\ 7\ 9}}$

2 b. _____

$2{\overline{)2\ 8\ 2\ 2}}$

2 c. _____

$4{\overline{)9\ 6\ 5\ 2}}$

Answer Key

1 a.	3524	1 b.	437	1 c.	1140
2 a.	493	2 b.	1411	2 c.	2413

Division Worksheet

1 a.

$$39)\overline{1\ 1\ 7}$$

1 b.

$$45)\overline{7\ 6\ 5}$$

1 c.

$$15)\overline{2\ 1\ 0}$$

2 a.

$$92)\overline{8\ 2\ 8}$$

2 b.

$$12)\overline{6\ 2\ 4}$$

2 c.

$$42)\overline{9\ 6\ 6}$$

3 a.

$$10)\overline{3\ 6\ 0}$$

3 b.

$$42)\overline{2\ 5\ 2}$$

3 c.

$$53)\overline{3\ 1\ 8}$$

Answer Key

1 a.	3	1 b.	17	1 c.	14
2 a.	9	2 b.	52	2 c.	23
3 a.	36	3 b.	6	3 c.	6