Hello 6th Graders,

During Spring Break you will be working on five different math skills to help you prepare for the upcoming MAP test. In this packet, you will find an outline of video lessons and online practice, notes pages, reference pages, games, and practice sheets. The packet will also be available on the Ritenour website and emailed to your families. Each day you will take notes as you watch the instructional videos, complete the online practice, and review the provided reference sheet before completing the paper practice pages in this packet. If you do not have access to the internet it is okay. You can still use the reference sheets provided to help you complete the worksheets.

Parents and Guardians,

You are encouraged to help your child as they work through each day’s lesson and play the games together. In addition to this packet, during the month of April your child’s teacher will be furthering instruction on these topics plus some additional skills. This packet will give your child a strong foundation and head start for those upcoming lessons and the rest of the year.

Have a wonderful spring break!

Parent Signature: __________________________________________

My child has completed the “Spring Into Math” lessons and packet

Student Name: _____________________________________________

***The completed packet is due on the WEDNESDAY after spring break.***
**Topic 1: Area of Parallelograms and Triangles**

**Learning Target:** I can apply the proper formulas to find the area of parallelograms and triangles.

- **Link(s) to Videos:** Take notes and work through problems on the Notes Page.
- **Reference Sheet:** Area of Parallelograms and Triangles
- **Paper Practice:** Area of Parallelograms and Triangles (and Trapezoids)-Create a Riddle

**Topic 2: Area of Trapezoids and Kites**

**Learning Target:** I can decompose trapezoids and kites in order to calculate their area.

- **Link(s) to Videos:** Take notes and work through problems on the Notes Page.
- **Reference Sheet:** Area of Trapezoids and Kites
- **Paper Practice:** Area of Trapezoids, Rombi, and Kites Maze

**Topic 3: Volume of Rectangular Prisms**

**Learning Target:** I can find the volume of rectangular prisms with fractional edge lengths.

- **Link(s) to Videos:** Take notes and work through problems on the Notes Page.
- **Reference Sheet:** Volume of Rectangular Prism
- **Paper Practice:** Volume of Rectangular Prisms: Fractional Sides-Create a Riddle

**Topic 4: Nets of Solid Figures**

**Learning Target:** I can represent solid figures using nets.

- **Link(s) to Videos:** Take notes and work through problems on the Notes Page.
- **Reference Sheet:** Nets of Solid Figures
- **Paper Practice:** Which net is this?

**Topic 5: Surface Area of Solid Figures Using Nets**

**Learning Target:** I can use nets of solid figures to find surface area.

- **Link(s) to Videos:** Take notes and work through problems on the Notes Page.
- **Reference Sheet:** Surface Area Using Nets
- **Paper Practice:** Surface Area Nets
Topic 1: Area of Parallelograms and Triangles
**Area of a Parallelogram**

**Formula:** \( A = b \times h \)

1. Determine base & height
2. Set up algorithm (formula)
3. Multiply base and height

\[ b = 4 \quad h = 2 \quad A = 4 \times 2 = 8 \text{ cm}^2 \]

**Area of a Triangle**

**Formula:** \( A = \frac{b \times h}{2} \)

1. Determine base & height
2. Set up algorithm (formula)
3. Multiply base and height
4. Divide by 2

\( b = 6 \text{ cm}; \ h = 7 \text{ cm} \)

\[
\frac{7 \times 6}{2} = \frac{42}{2} = 21 \text{ cm}^2
\]
Area of Parallelograms, Triangles and Trapezoids
Create the Riddle Activity

Find the area of the figures below to create a riddle. Then, scan the QR Code to answer the riddle.

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<tbody>
<tr>
<td>72 m²: why</td>
<td>350 m²: pants</td>
<td>39.2 in²: his</td>
<td>360 m²: hot</td>
<td>338 mi²: potato</td>
<td>12 in²: did</td>
<td></td>
</tr>
<tr>
<td>288 mi²: dog</td>
<td>615 m²: Tonya</td>
<td>24 in³: can</td>
<td>36 m²: what</td>
<td>330 m³: Sammy</td>
<td>180 m²: shoe</td>
<td></td>
</tr>
<tr>
<td>48 mm²: have</td>
<td>54.56 cm²: out</td>
<td>720 m²: cold</td>
<td>96 mm²: does</td>
<td>109.12 cm²: in</td>
<td>58.8 in²: her</td>
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Topic 2: Area of Trapezoids and Kites
**Topic 2 Reference Sheet: Area of Trapezoids & Kites**

**Area of Trapezoids**
- Has 1 pair of parallel sides.
- Formula: \( A = \frac{(b_1 + b_2)h}{2} \)
- Example: If \( b_1 = 7 \), \( b_2 = 5 \), and \( h = 3 \), then \( A = \frac{(7 + 5)}{2} \cdot 3 = \frac{36}{2} = 18 \text{ units}^2 \)

**Area of a Kite or Rhombus**
- Formula: \( A = \frac{d_1 \cdot d_2}{2} \)
- Example: If \( d_1 = 13 \) and \( d_2 = 6 \), then \( A = \frac{13 \cdot 6}{2} = \frac{78}{2} = 39 \text{ units}^2 \)

*Area is always \text{ units}^2 \text{ ft}^2 \text{ m}^2 \text{ in}^2*
Area of Trapezoids, Rhombi, & Kites

Find the area of each figure. All answers are rounded to the nearest whole number.
Topic 3: Volume of Rectangular Prisms
**Volume**

Volume is: a measure of how much space a solid object takes up.

*Volume is measured in CUBIC units*

**Formula:**

\[ V = \text{Area of Base} \times \text{height} \]

\[ V = \text{length} \times \text{width} \times \text{height} \]

**Example: Cube**

\[ V = 3 \times 2 \times 3 = 18 \text{ in}^3 \]

**Example: Rectangular Prism**

\[ V = (5 \times 2) \times 4 = 40 \text{ inches} \]

**Example: Rectangular Prism**

\[ V = (4 \times 3) \times 2 = 24 \text{ in}^3 \]
Volume of Rectangular Prisms
Fraction Sides
Create the Riddle Activity

Find the volume of the prisms below to create a riddle. Then, scan the QR Code to answer the riddle. All units are in inches, so you can’t just try to match units. Simplify if needed.

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<tbody>
<tr>
<td>1</td>
<td>(\frac{1}{2}) in</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>(\frac{2}{3}) in</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>(\frac{3}{4}) in</td>
<td>(\frac{1}{4}) in</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>(\frac{1}{3}) in</td>
<td>(2\frac{1}{3}) in</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td>5</td>
<td>(\frac{5}{8}) in</td>
<td>(3\frac{1}{4}) in</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>6</td>
<td>(\frac{1}{2}) in</td>
<td>(3) in</td>
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</tbody>
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<tbody>
<tr>
<td>(5\frac{1}{16}) in(^3)</td>
<td>(1\frac{1}{8}) in(^3)</td>
<td>(4\frac{13}{16}) in(^3)</td>
<td>(1\frac{7}{8}) in(^3)</td>
</tr>
<tr>
<td>balls</td>
<td>of</td>
<td>nets</td>
<td>will</td>
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<tr>
<td>(4\frac{17}{27}) in(^3)</td>
<td>(\frac{47}{128}) in(^3)</td>
<td>(\frac{1}{6}) in(^3)</td>
<td>(\frac{73}{128}) in(^3)</td>
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<td>how</td>
<td>mean</td>
<td>the</td>
<td>kind</td>
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<td>(17\frac{2}{3}) in(^3)</td>
<td>(\frac{23}{32}) in(^3)</td>
<td>(17\frac{17}{27}) in(^3)</td>
<td>(\frac{20}{27}) in(^3)</td>
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<tr>
<td>break</td>
<td>don’t</td>
<td>bounce</td>
<td>what</td>
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Topic 4: Nets of Solid Figures
# Nets of 3D Figures

<table>
<thead>
<tr>
<th>Name</th>
<th>Shape</th>
<th>Net(s)</th>
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</thead>
<tbody>
<tr>
<td>Cube</td>
<td>![Cube Image]</td>
<td>![Cube Net]</td>
</tr>
<tr>
<td>Rectangular Prism (Cuboid)</td>
<td>![Cuboid Image]</td>
<td>![Cuboid Net]</td>
</tr>
<tr>
<td>Triangular Prism</td>
<td>![Triangular Prism Image]</td>
<td>![Triangular Prism Net]</td>
</tr>
<tr>
<td>Square Pyramid</td>
<td>![Square Pyramid Image]</td>
<td>![Square Pyramid Net]</td>
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<tr>
<td>Triangular Pyramid</td>
<td>![Triangular Pyramid Image]</td>
<td>![Triangular Pyramid Net]</td>
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<tr>
<td>Cylinder</td>
<td>![Cylinder Image]</td>
<td>![Cylinder Net]</td>
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<tr>
<td></td>
<td>Cone</td>
<td>Cylinder</td>
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<td>1</td>
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<td>3</td>
<td>Cone</td>
<td>Cylinder</td>
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<tr>
<td>4</td>
<td>Cone</td>
<td>Cylinder</td>
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</tbody>
</table>
Topic 5 Reference Sheet: Use Nets to Find Surface Area

Surface Area of a Rectangular Prism

the OUTSIDE area of a 3-D shape

1. Make a **NET** showing all the faces.
2. Find the **AREA** of each face.
3. **ADD** the areas of all the faces.

Surface Area: \( (6 \times 2) + (2 \times 3) + (2 \times 3) + (6 \times 3) + (2 \times 6) + (6 \times 3) \)
\[ = 12 + 6 + 6 + 18 + 12 + 18 \]
\[ = 72 \text{ cm}^2 \]
Directions: Find the total surface areas of the figures below.

1. Square-based Pyramid
2. Rectangular Prism
3. Triangular Prism
4. Triangular-based Pyramid

- For the square-based pyramid, use the formula: Surface Area = 2lw + 2lh + 2wh, where l = 4 in, w = 4 in, and h = 10 cm.
- For the rectangular prism, use the formula: Surface Area = 2lw + 2lh + 2wh, where l = 10 cm, w = 10 cm, and h = 4 cm.
- For the triangular prism, use the formula: Surface Area = 2(lw + lh + wh), where l = 11 cm, w = 6 cm, and h = 8 cm.
- For the triangular-based pyramid, use the formula: Surface Area = 1/2(Base Area) + 1/2(Sum of lateral faces), where the base area is the area of the triangle and the lateral faces are the areas of the three triangles forming the sides of the pyramid.

Date: ___________________
Name: ___________________