Marilyn made the pattern shown below.

6, 12, 18, 24, 30, 36, . . .

Which of these could be the rule Marilyn used to make this pattern?

A  Add 4
B  Add 6 *
C  Multiply by 2
D  Multiply by 6
<table>
<thead>
<tr>
<th>Grade: 03</th>
<th>MATH</th>
<th>PAWS 2006 (OP)</th>
<th>Type: MC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form: OP1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Position: 26</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Rasch Difficulty: -1.8807</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>N: 6145</td>
<td>Mean: 0.84</td>
<td>Item-total Correlation: 0.37</td>
<td>Max Pt: 1</td>
</tr>
</tbody>
</table>
Mr. Johnson wrote the number shown below on the classroom board.

8,436

Part A. What is the place value of the digit 4 in 8,436?
Show or explain how you got your answer.

Place Value: _______________

____________________________________________________

____________________________________________________

Part B. In the space below, write 8,436 in word form.

____________________________________________________

____________________________________________________

____________________________________________________
Part C. In the space below, write a four-digit number in standard form that has a 9 in the thousands place.

___________________________

Part D. In the space below, write your number from Part C in word form.

____________________________________________________

____________________________________________________
CID: 3373479

Grade: 03    MATH    PAWS 2006 (OP)    Type: OE
Form: OP1
Position: 56

Rasch Difficulty: -0.9862
N: 6116    Mean: 2.75    Item-total Correlation: 0.45    Max Pt: 4
The Rico family is building a game room. The floor of the game room has the shape of a rectangle. The diagram below shows the dimensions of the game-room floor.

What is the area of the game-room floor in square feet?

A 25 sq ft
B 50 sq ft
C 144 sq ft  *
D 146 sq ft
CID: 3341526

<table>
<thead>
<tr>
<th>Grade:</th>
<th>MATH</th>
<th>PAWS 2006 (OP)</th>
<th>Type:</th>
<th>MC</th>
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</thead>
<tbody>
<tr>
<td>Form:</td>
<td>OP1B</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Position:</td>
<td>27</td>
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<table>
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<tr>
<th>Rasch Difficulty:</th>
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<tbody>
<tr>
<td>N: 6206</td>
<td>Mean: 0.51</td>
</tr>
<tr>
<td>Item-total Correlation: 0.35</td>
<td>Max Pt: 1</td>
</tr>
</tbody>
</table>
Which figure below does not have the same number of vertices as the others? Show or explain how you got your answer.

<table>
<thead>
<tr>
<th>Figure A</th>
<th>Figure B</th>
<th>Figure C</th>
<th>Figure D</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image.png" alt="Rectangle" /></td>
<td><img src="image.png" alt="Pentagon" /></td>
<td><img src="image.png" alt="Parallelogram" /></td>
<td><img src="image.png" alt="Trapezoid" /></td>
</tr>
</tbody>
</table>

Figure: _______________

_____________________________________________________

_____________________________________________________

_____________________________________________________

_____________________________________________________
<table>
<thead>
<tr>
<th>Grade: 04 MATH PAWS 2006 (OP)</th>
<th>Type: OE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form: OP1B</td>
<td></td>
</tr>
<tr>
<td>Position: 46</td>
<td></td>
</tr>
<tr>
<td>Rasch Difficulty: -0.9309</td>
<td></td>
</tr>
<tr>
<td>N: 6175 Mean: 1.38</td>
<td>Item-total Correlation: 0.30</td>
</tr>
<tr>
<td>Max Pt: 2</td>
<td></td>
</tr>
</tbody>
</table>
Casey has $52.47 in her savings account. Samuel has $52.97 in his savings account. How much more money does Casey need in her account to have the same amount of money as Samuel has in his account?

A  $0.02
B  $0.47
C  $0.50  *
D  $0.57
CID: 3337700

Grade: 05 MATH PAWS 2006 (OP) Type: MC
Form: OP1A
Position: 9

Rasch Difficulty: -2.1588
N: 5977 Mean: 0.92 Item-total Correlation: 0.36 Max Pt: 1
Students in three different grades were asked if they prefer pizza or hamburgers. The results of the survey are shown in the table below.

**Pizza vs. Hamburgers Survey Results**

<table>
<thead>
<tr>
<th></th>
<th>Grade 3</th>
<th>Grade 4</th>
<th>Grade 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pizza</td>
<td>26</td>
<td>22</td>
<td>28</td>
</tr>
<tr>
<td>Hamburgers</td>
<td>32</td>
<td>33</td>
<td>34</td>
</tr>
</tbody>
</table>

Part A. On the grid provided below, create a double bar graph that represents the results of the survey. Be sure to label each axis and give the graph a title.
Part B. Which grade had the most responses? In the space below, show or explain how you got your answer.

Grade: _______________________

____________________________________________________

____________________________________________________

Part C. Which should be included more often on the school’s lunch menu, pizza or hamburgers? In the space below, use the survey results to show or explain your reasoning.

____________________________________________________

____________________________________________________

____________________________________________________
<table>
<thead>
<tr>
<th>CID: 3342979</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade: 05</td>
</tr>
<tr>
<td>Form: OP1B</td>
</tr>
<tr>
<td>Rasch Difficulty: 0.6047</td>
</tr>
</tbody>
</table>
Point M is shown on the number line below.

Which best describes the location of point M?

A \( \frac{16}{5} \)

B \( \frac{17}{5} \) *

C \( \frac{13}{4} \)

D \( \frac{10}{3} \)
<table>
<thead>
<tr>
<th>Grade:</th>
<th>06</th>
<th>MATH</th>
<th>PAWS 2006 (FT)</th>
<th>Type:</th>
<th>MC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form:</td>
<td>01</td>
<td>02</td>
<td>03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Position:</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Rasch Difficulty: 1.6382

N: 1376  Mean: 0.40  Item-total Correlation: 0.49  Max Pt: 1
Derrick started the number pattern shown below.

\[2, 4, 8, 16, 32, \ldots\]

Part A. What are the next 3 terms in the pattern? In the Answer Book, show or explain how you got your answer.

Part B. In the Answer Book, describe the pattern, or write a rule that Derrick could have used to create the pattern.

Part C. In the Answer Book, create another number pattern using the same rule Derrick used (Part B) but begin with a different number. Your pattern must contain 5 terms.
### CID: 3339307

<table>
<thead>
<tr>
<th>Grade</th>
<th>MATH</th>
<th>PAWS 2005 (FT)</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>06</td>
<td></td>
<td></td>
<td>ER</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Form</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>02 03 04 05 06</td>
</tr>
<tr>
<td></td>
<td>17</td>
</tr>
</tbody>
</table>

- **Rasch Difficulty**: -0.4175
- **N**: 1001
- **Mean**: 3.04
- **Item-total Correlation**: 0.49
- **Max Pt**: 4

**Distribution**:
- A/00: 9
- B/01: 6
- C/02: 14
- D/03: 7
- OM Invld: 58
- Tot: 5

**High**:
- 92

**Med**:
- 65

**Low**:
- 13
- 22
- 4

**DIF**:
- **Reference**
- **Focal**
- **Male/Female**
- **White/Hispanic**
- **White/Am. Indian**
- **Non SPED/SPED**
- **Non LEP/LEP**
- **Non Lunch/Lunch**

- **Favored**: Wh no no
- **Flag**: C C CC

**N Ref.**:
- 505
- 829
- 829
- 890
- 975
- 717

**N Foc.**:
- 462
- 74
- 33
- 111
- 26
- 284

**DIF flags**
- “A/AA” means a zero or a negligible indication of DIF (Not shown); “B/BB” means a moderate indication of DIF; “C/CC” means a strong indication of DIF. DIF would not be calculated if N-count is less than 100.

**Accept as is**

**Reject**
PAWS
Mathematics
Grade 7
The graph below shows how water is used at Jane’s home.

WATER USAGE AT HOME

Laundry and cleaning (20%)

Kitchen

Bathroom (75%)

If Jane’s family uses 1800 gallons of water each day, what is the total number of gallons of water used in the kitchen each day?

A. 90 gal. *
B. 180 gal.
C. 900 gal
D. 1800 gal.
<table>
<thead>
<tr>
<th>Grade: 07 MATH</th>
<th>PAWS 2005 (FT)</th>
<th>Type: MC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form: 01 02 03 04 05 06</td>
<td>Position: 14</td>
<td></td>
</tr>
<tr>
<td>Rasch Difficulty: -0.1597</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N: 1026</td>
<td>Mean: 0.59</td>
<td>Item-total Correlation: 0.24</td>
</tr>
</tbody>
</table>
The circumference of a circle is 31.4 inches. What is the radius in inches of the circle? (Use $\pi \approx 3.14$) Write your answer in the space below. Show or explain how you got your answer.

Radius in Inches: _______________

____________________________________________________________________________

____________________________________________________________________________
CID: 3459690

Grade: 07  MATH  PAWS 2006 (FT)  Type: OE
Form: 01  02  03
Position: 32

Rasch Difficulty: 2.1903
N: 1243  Mean: 0.59  Item-total Correlation: 0.51  Max Pt: 2
The heights of the 10 players on a high school basketball team are shown below.

<table>
<thead>
<tr>
<th>Heights of Players</th>
</tr>
</thead>
<tbody>
<tr>
<td>63 in.</td>
</tr>
<tr>
<td>72 in.</td>
</tr>
<tr>
<td>70 in.</td>
</tr>
<tr>
<td>65 in.</td>
</tr>
<tr>
<td>76 in.</td>
</tr>
</tbody>
</table>

What is the median height of the players on the team?

A. 68 in.
B. 70 in.
C. 71 in. *
D. 72 in.
CID: 3343012

<table>
<thead>
<tr>
<th>Grade: 08</th>
<th>MATH</th>
<th>PAWS 2005 (FT)</th>
<th>Type: MC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form: 01</td>
<td>02</td>
<td>03</td>
<td>04</td>
</tr>
<tr>
<td>Position:</td>
<td></td>
<td></td>
<td>06</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>22</td>
</tr>
</tbody>
</table>

Rasch Difficulty: 0.6071

N: 956  Mean: 0.45  Item-total Correlation: 0.35  Max Pt: 1
In math class Rachel was asked to build a rectangular prism using 18 wooden cubes. The edges of each cube are 1 inch in length.

Part A. Rachel used all 18 cubes to build the prism. In the space below, draw a picture of what Rachel’s prism could look like, and write the dimensions of the prism.
Part B. What is the surface area of the rectangular prism you drew in Part A? Write your answer in the space below. Show or explain how you got your answer.

Surface Area in Square Inches: ___________________

_____________________________________________________

_____________________________________________________

_____________________________________________________

_____________________________________________________
### CID: 3458625

<table>
<thead>
<tr>
<th>Grade</th>
<th>MATH</th>
<th>PAWS 2006 (FT)</th>
<th>Type</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>OE</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Form</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>02 03</td>
</tr>
<tr>
<td></td>
<td>40</td>
</tr>
</tbody>
</table>

- **Rasch Difficulty:** 2.5336
- **N:** 1564
- **Mean:** 0.65
- **Item-total Correlation:** 0.45
- **Max Pt:** 2

---

**Distribution:**

<table>
<thead>
<tr>
<th>A/00</th>
<th>B/01</th>
<th>C/02</th>
<th>D/03</th>
<th>OM</th>
<th>Invld</th>
</tr>
</thead>
<tbody>
<tr>
<td>45</td>
<td>38</td>
<td>12</td>
<td>5</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>High</th>
<th>Med</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>44</td>
<td>67</td>
</tr>
<tr>
<td>36</td>
<td>44</td>
<td>24</td>
</tr>
<tr>
<td>44</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>7</td>
</tr>
</tbody>
</table>

**DIF:**

- **Focal:**
  - Male/
  - Female:
  - White/
  - Hispanic:
  - White/
  - Am. Indian:
  - Non SPED/
  - SPED:
  - Non LEP/
  - LEP:
  - Non Lunch/
  - Lunch:

- **Flag:**

  - N Ref.: 825 1349 1349 1385 1523 1072
  - N Foc.: 739 127 48 179 41 463

**DIF flags**

- “A/AA” means a zero or a negligible indication of DIF (Not shown);  
- “B/BB” means a moderate indication of DIF;  
- “C/CC” means a strong indication of DIF.  

DIF would not be calculated if N-count is less than 100.
PAWS
Mathematics
Grade 11
The dimensions for a right square pyramid are shown below.

What is the lateral area of the pyramid?

A  $180 \text{ cm}^2$
B  $324 \text{ cm}^2$
C  $504 \text{ cm}^2$ *
D  $828 \text{ cm}^2$
<table>
<thead>
<tr>
<th>Grade:</th>
<th>11</th>
<th>MATH</th>
<th>PAWS 2006 (FT)</th>
<th>Type:</th>
<th>MC</th>
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<tbody>
<tr>
<td>Form:</td>
<td>01</td>
<td>02</td>
<td>03</td>
<td>04</td>
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<tr>
<td>Position:</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Rasch Difficulty: 1.1599

N: 620  Mean: 0.31  Item-total Correlation: 0.10  Max Pt: 1
The diagram below represents a portion of the design plan for a new roller coaster.

ROLLER COASTER TRACK SECTION

Part A. If each unit on the grid represents 10 feet, what is the length in feet of the roller coaster track represented by \( \overline{AB} \)? Write your answer in the space below. Show or explain how you got your answer.

Length: ______________________

________________________________________________________________________

________________________________________________________________________
Part B. The designer plans to add a point $M$ to the diagram to show a support brace on the section of track. Point $M$ will be at the midpoint of $AB$. What will be the coordinates of point $M$? Write your answer in the space below. Show how you got your answer.

Coordinates of Point $M$: __________________

Part C. The circle in the diagram below shows an enlargement of the support brace for the section of track. The segment labeled “brace 2” is perpendicular to the track at the midpoint of $AB$ you found in Part B.

The designer needs to draw the segment for “brace 2” on the graph. What should be the slope of the segment labeled “brace 2” on the graph? Write your answer in the space below. Show how you got your answer.

Slope of Brace 2: __________________
<table>
<thead>
<tr>
<th>Grade:</th>
<th>11</th>
<th>MATH</th>
<th>PAWS 2006 (FT)</th>
<th>Type: OE</th>
</tr>
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<tbody>
<tr>
<td>Form:</td>
<td>01</td>
<td>02</td>
<td>03</td>
<td>04</td>
</tr>
<tr>
<td>Position:</td>
<td>47</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Rasch Difficulty: 1.1636

N: 612  Mean: 1.13  Item-total Correlation: 0.69  Max Pt: 4