TIPS FOR TAKING THE TEST

Here are some suggestions to help you do your best:

• Be sure to read carefully all the directions in the test book.
• Read each question carefully and think about the answer before writing your response.
• Be sure to show your work when asked. You may receive partial credit if you have shown your work.
• Use your calculator to help you solve the problems on this part of the test.

This picture means that you will use your ruler.

Mathematics Reference Sheet

**FORMULAS**

<table>
<thead>
<tr>
<th>Formula</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pythagorean Theorem</td>
<td>$a^2 + b^2 = c^2$</td>
</tr>
<tr>
<td>Simple Interest</td>
<td>$I = prt$</td>
</tr>
<tr>
<td>Distance Formula</td>
<td>$d = rt$</td>
</tr>
</tbody>
</table>

**CONVERSIONS**

**Temperature Conversions**

- $F = \frac{9}{5}C + 32$
- $C = \frac{5}{9}(F - 32)$

**Measurement Conversions**

- 1 mile = 5,280 feet
- 1 yard = 3 feet
In the diagram below, ∠PRQ measures 73°.

What is the measure of ∠QRT?

*Show your work.*

*Answer* ________________ degrees
What is the polynomial resulting from the subtraction below?

\[(3x^2 + 4x - 7) - (x^2 - 2x + 6)\]

*Show your work.*

*Answer* ________________
In triangle ABC below, \( AB \) is 9 meters long and \( BC \) is 7 meters long. Use the Pythagorean theorem to find the length of \( AC \) to the nearest tenth of a meter.

Show your work.

Answer ______________ meters
In the diagram below, MN // OP, and transversal k intersects both lines.

[not drawn to scale]

Name two angles in the diagram that are congruent to ∠4.

Answer ∠ _______________ and ∠ _______________

On the lines below, explain how you determined these angles are congruent to ∠4.

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________
Tyrone travels internationally on business. On a trip to Japan, Tyrone uses the exchange rates in the tables shown below.

<table>
<thead>
<tr>
<th>U.S. Dollar</th>
<th>Japanese Yen</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1.00</td>
<td>115.19¥</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Japanese Yen</th>
<th>U.S. Dollar</th>
</tr>
</thead>
<tbody>
<tr>
<td>1¥</td>
<td>$0.008681</td>
</tr>
</tbody>
</table>

What is the value of 75 U.S. dollars in Japanese yen? **Round** your answer to the nearest yen.

*Show your work.*

Answer ________________ ¥
The graph below shows the change in water temperature of a glass of tap water placed into a freezer.

Use information in the graph to determine how many total minutes it takes the water to reach 0°C.

**Answer** ________________ minutes

On the lines below, explain how you determined your answer.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Ramona is a travel agent. She receives a 6% commission on vacation package sales.

**Part A**

How much commission will Ramona make if she sells $3,600 in vacation packages?

*Show your work.*

\[ \text{Answer} \$ \underline{\phantom{000}} \]

**Part B**

Ramona receives an additional 2% bonus on the sale of vacation packages during February. What would be her combined commission and bonus if she sells $3,600 in vacation packages during February?

*Answer $ \underline{\phantom{000}} \]

Go On
On the coordinate plane below, draw the image of polygon ABCDE translated 8 units to the right and 4 units up. Label the image A’B’C’D’E’.
Consuelo is grocery shopping and sees that the price of 4 melons is $7.00. Write a proportion that Consuelo can use to find the price of 1 melon.

**Proportion**

Use your proportion to find the price of 1 melon.

*Show your work.*

**Answer** $ \$ \text{________} $
The table below shows the coordinates of triangle RST and the coordinates of R’ in triangle R’S’T’. Triangle R’S’T’ is a dilation of triangle RST.

<table>
<thead>
<tr>
<th>Triangle RST</th>
<th>Triangle R’S’T’</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>R’</td>
</tr>
<tr>
<td>(–2, –3)</td>
<td>(–6, –9)</td>
</tr>
<tr>
<td>S</td>
<td>S’</td>
</tr>
<tr>
<td>(0, 2)</td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>T’</td>
</tr>
<tr>
<td>(2, –3)</td>
<td></td>
</tr>
</tbody>
</table>

Part A

What are the coordinates of point S’ and point T’?

Answer S’ = (____, ____)

T’ = (____, ____)

Part B

On the grid below, draw triangle RST and triangle R’S’T’.
In the diagram below, line $r$ and line $t$ are parallel. Line $n$ is a transversal.

What is the measure, in degrees, of $\angle A$?

*Show your work.*

$\text{Answer} \ \ \ \ \ \ \ \ \ 150 \text{ degrees}$
In the diagram below, $\angle DEF$ and $\angle FEG$ are complementary.

![Diagram]

What is the measure of $\angle FEG$?

*Show your work.*

*Answer* __________ degrees