2007 Shoreline Math Olympiad
Team Test Answer Sheet

Team member's name: 

5th Grade Test # 1

ANSWERS:

1. 42

2. 20 mph

3. 15 is the choice.

4. 64 ft^2

* units required

5. Alyssa - Vet, Ben - Editor

4. 84

7. 1/6

5th Grade Test # 2

ANSWERS:

1. 6 ft stop

2. 45 ft

3. 52/365, 360/365, 360/365, 360/365, or 6/73

4. 70

5. 8 ft x 10 ft

6. -12, -2, -15, 4

7. 1", 1 1/2", 2", 2 1/2"
1. Frank read a chapter with a total of nine pages from a certain book. The sum of the page numbers he read is 378. What is the page number of the middle page of this chapter?

\[ 378 \div 9 = 42 \]

2. Noah is riding in a bicycle race. Two-thirds of the course runs downhill. One-third runs uphill.
   When Noah is riding uphill, he rides at an average speed of 12 miles per hour. When he rides downhill, he rides at an average speed of 24 miles per hour.
   What is his average speed for the whole course?

\[ 12 \times \frac{1}{3} + 24 \times \frac{2}{3} = \frac{60}{3} = 20 \text{ mph} \]

3. At Jack's Pizza Shack, these toppings are available: pepperoni, mushrooms, sausage, onions, green pepper, and olives. How many different two-topping pizzas can be made? What are the choices?

\[ \frac{6 \times 5}{2} = 15 \]

They want you to list all 15!

4. Find the area of the shaded part.

\[ \frac{1}{2} \times \frac{16 \times 16}{2} = 64 \text{ ft}^2 \]

Continue on back of page
5. Alyssa, Ben, Caitlin, and Darren each works as a vet, an accountant, a teacher, or an editor. Use the clues and the chart to find out whom has which job. Use an X in each square that is not a possibility. Use an O when you know something is correct.

- **a.** Caitlin is not a teacher or an editor.
- **b.** Alyssa is either a teacher or a vet.
- **c.** Darren is not a vet or an editor.
- **d.** The accountant is a woman.

Write each person’s name and occupation on your answer sheet.

6. Find a two-digit number with all these properties:
   - The tens digit is larger than the ones digit,
   - The difference between the digits is greater than 3,
   - The sum of the digits is greater than 10, and
   - The number is a multiple of 12.

- 60, 72, 84, 96
- 62, 72, 84
- 84

7. Peppino’s Pizza is catering a dinner. They will offer thin crust or deep-dish pizza with pepperoni, extra cheese, or veggies. Find the probability that someone who likes only thin crust veggie pizza will be satisfied with the choices at the dinner.

<table>
<thead>
<tr>
<th>Crust</th>
<th>Topping</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thin crust</td>
<td>Pepperoni</td>
<td>Thin crust pepperoni</td>
</tr>
<tr>
<td></td>
<td>Extra cheese</td>
<td>Thin crust, extra cheese</td>
</tr>
<tr>
<td></td>
<td>Veggie</td>
<td></td>
</tr>
<tr>
<td>Deep-dish</td>
<td>Pepperoni</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Extra cheese</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Veggie</td>
<td></td>
</tr>
</tbody>
</table>

End of test ☺ You may KEEP this copy of the test.
2007 Shoreline Math Olympiad
Team Test #2 Grade 5

1. A bus with 60 seats heads down Division Street. At the first stop, the bus picks up three passengers. At the second stop, it picks up five passengers. After that, the sum of passengers picked up at every stop is equal to the sum of the passengers picked up at the previous two stops. At what stop is the bus full?

\[ 3 \quad 5 \quad 8 \quad 13 \quad 21 \quad 34 \quad 5 \quad 9 \quad 29 \quad 50 \quad (84) > 60 \]

2. A gumball machine contains red, green, yellow, and purple gumballs. You cannot control which color you get. Anna wants three gumballs of any one color. At 5¢ each, what is the most she must be ready to spend to be sure that she has three gumballs of the same color?

\[ 4 \times 2 + 1 = 9 \times 5 \]

2 g of each color followed by the 3rd of a color.

Angela is planning her wedding for next year and is having a difficult time setting the date. She finally decides to flip through her desktop calendar and stop at a random date. Next year is not a leap year.

What is the probability that Angela’s wedding day will land on a

A. Saturday?
B. weekday?
C. day in June?

\[ \frac{5 \times 7}{365} = \frac{6}{73} \]

4. Use the clues and a calculator to find the mystery number.

The number is greater than 10, but less than 100.
It is divisible by 2 and 5, but not by 3. **Multiple of 10**
The sum of its digits is 7.
The number is _______.

Continue on back of page
Team Test #2  Grade 5  2007 Shoreline Math Olympiad

$120 \times \frac{2}{3} = 80 = 8 \times 10$

5. A rug placed in a 10 ft x 12 ft room covers two-thirds of the floor area and leaves a uniform strip of bare floor around the edges. Find the dimensions of the rug.

$\frac{10 - 8}{12 - 10} = \frac{2}{2}$

Find two numbers whose product is the top number and whose sum is the bottom number.

6.

$$\begin{align*}
\text{a} & \quad 24 \\
\text{x} & \quad -2 \\
\text{+} & \quad -14 \\
\text{b} & \quad -60 \\
\text{x} & \quad -15 \\
\text{+} & \quad -11 \\
\end{align*}$$

7. Nails are denoted by penny-size. For nails three inches or less in length, there is a formula to determine length: Divide the penny-size by 4 and add $\frac{1}{2}$ inch.

Calculate the length in inches for each size of nail.

$$\begin{align*}
\text{a} & \quad 2\text{-penny} \quad \frac{2}{4} + \frac{1}{2} = 1" \\
\text{c} & \quad 4\text{-penny} \quad \frac{4}{4} + \frac{1}{2} = 1\frac{1}{2}" \\
\text{b} & \quad 6\text{-penny} \quad \frac{6}{4} + \frac{1}{2} = 2" \\
\text{d} & \quad 8\text{-penny} \quad \frac{8}{4} + \frac{1}{2} = 2\frac{1}{2}"
\end{align*}$$

End of test You may KEEP this copy of the test.