

**Math 10 Summer Math Packet**  
**William M. Davies, Jr. Career & Technical High School**  
**2010**

Directions: Complete all ten problems below in the space provided. You must show all work neatly and in an organized fashion along with the correct answer to receive ten points. No scrap.

**Problem #1 (N&O) 10-4b:** Accurately solves problems that involve but are not limited to percents.

**Sarah bought a DVD player originally priced at \$450 that was on sale for 20% off. What was the sale price?**

**Problem #2 (N&O) 10-4a,b:** Accurately solves problems that involve but are not limited to proportional relationships and percents.

**When a giraffe is born, it is approximately 55% as tall as it will be as an adult. If a baby giraffe is 5.2 feet tall when it is born, how tall will it be when it is full-grown, to the nearest tenth of a foot?**

**Problem #3 (G&M) 10-2Sa,d:** Makes and defends conjectures, constructs geometric arguments, uses geometric properties, or uses theorems to solve problems within mathematics or across disciplines or contexts (e.g. Pythagorean Theorem, Triangle Inequality Theorem) involving angles and polygons.

Two angles of a triangle are  $45^\circ$  and  $30^\circ$ . Indicate whether the triangle is acute, right or obtuse and its angle measure.

**Problem #4 10-2Sd:** Makes and defends conjectures, constructs geometric arguments, uses geometric properties, or uses theorems to solve problems within mathematics or across disciplines or contexts (e.g. Pythagorean Theorem, Triangle Inequality Theorem) involving polygons.

The second angle in a quadrilateral is eight times as large as the first angle. The third angle is half as large as the second. The fourth angle is as large as the first angle and the second angle combined. Find the angle measures in the quadrilateral

**Problem #5 (G&M) 10-6c: Solves problems within mathematics or across disciplines or contexts involving area.**

**The state of Tennessee is shaped approximately like a parallelogram. The base is 350 miles and the height is 120 miles. Estimate the area of the state.**

**Problem #6 (G&M) 10-6b: Solves problems within mathematics or across disciplines or contexts involving circumference.**

**A Ferris Wheel has a diameter of 56 feet and makes 15 revolutions per ride. How far would someone travel during a ride: Use  $\frac{22}{7}$  for  $\pi$ .**

**Problem #7 (DSP) 10-2a:** Analyzes patterns, trends, or distributions in data in a variety of contexts to solve problems; solves problems involving conceptual understanding of the sample from which statistics were developed by determining, using, or analyzing measures of central tendency (mean, median, or mode).

Aishya is cross-training for a marathon. She ran 50 minutes on Monday, 70 minutes on Wednesday, and 45 minutes on Friday. On Tuesday and Thursday, she lifted weights at the gym for 45 minutes each day. She swam for 45 minutes over the weekend. What was the average amount of time per day Aishya spend running last week?

**Problem #8 (DSP) 10-5b:** Solves problems involving theoretical probability.

A spinner has 4 colors: red, blue, yellow, and green. The green and yellow sections are equal in size. If the probability of not spinning red or blue is 40%, explain how to find the probability of spinning a green?

**Problem #9 (F&A) 10-4a,b:** Demonstrates conceptual understanding of equality by solving problems involving algebraic reasoning about equality and translating problem situations into equations.

A homeowner ordered 14 square yards of carpet for part of the first floor of a new house and 12 square yards of carpet for the basement. The total cost of the order was \$832 before taxes. Write and solve an equation to find the price of each square yard of carpet before taxes.

**Problem #10 (G&M) 10-9d:** Solves problems on an off the coordinate plane involving slope.

Find the slope of the line that passes through  $(-2, -3)$  and  $(4, 6)$ .