Name:_____

Test 1: Unit 1 & 2 Constructed Response

Standard A1.1.1

The results of an experiment were listed in several numerical forms as listed below.

$$5^{-3} \quad \frac{4}{7} \quad \sqrt{5} \quad \frac{3}{8} \quad 0.003$$

A. Order the numbers listed from **least** to **greatest.**

_____ _____ _____ _____ _____

Another experiment required evaluating the expression shown below.

$$\frac{1}{6}(\sqrt{36} \div 3^{-2}) + 4^3 \div |-8|$$

B. What is the value of the expression?

value of the expression: _____

Continued next page

Continued. Please refer to the previous page for task explanation.

The last experiment required simplifying $7\sqrt{425}$. The steps taken are shown below.

$$7\sqrt{425}$$

step 1: $7(\sqrt{400} + \sqrt{25})$

step 2: $7(20 + 5)$

step 3: $7(25)$

step 4: 175

One of the steps shown is incorrect.

C. Rewrite the incorrect step so that it is correct.

correction: _____

D. Using the corrected step from **part C**, simplify $7\sqrt{425}$.

$7\sqrt{425}$ = _____

26. Perform the following tasks.

A. Order this set from **greatest** to **least.**

2^{-4} $\sqrt{4}$ $-(5)^0$ 0.38 $\frac{3}{5}$ -3.2

_____ _____ _____ _____ _____ _____

B. Find the value of y when $x = -5$.

$$y = 3|x| + 8 - 2x^2$$

$y =$ _____

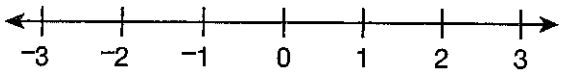
C. Write $\sqrt{160}$ in simplest radical form.

_____

24. Consider the following set of real numbers.

$$\sqrt{5} \quad \frac{\pi}{2} \quad -\frac{11}{7} \quad 0.85$$

A. Plot them on the number line.



B. What is the **greatest** number in the set?

C. Write an inequality comparing **all** of the numbers from the set.

Unit 1 Constructed-Response Review

Read the problem. Write your answer for each part.

1. A surveyor used various methods to calculate the areas of several pieces of land. Their areas in acres are listed below.

$$6\sqrt{3} \qquad (3.5)^2 \qquad \sqrt{75} \qquad 9.8 \qquad \frac{57}{5}$$

A List these numbers in order from **greatest** to **least.**

_____ _____ _____ _____ _____

B Explain how you found the correct order for the numbers in **part A.**

C The surveyor wrote the related expressions below.

$$6x\sqrt{3} \qquad x(3.5)^2 \qquad x\sqrt{75} \qquad 9.8x \qquad \frac{57x}{5}$$

Suppose that x is a negative real number. List these expressions in order from **greatest** to **least.**

_____ _____ _____ _____ _____

D Explain how you found the correct order for the expressions in **part C.**

Read the problem. Write your answer for each part.

2. Two circular ponds at a botanical garden have the following radii.

Pond A: $5\sqrt{164}$ meters Pond B: $\frac{25\sqrt{200}}{5}$ meters

Todd simplifies the radius of pond A this way:

$5\sqrt{164}$

Step 1: $5(\sqrt{100} + \sqrt{64})$

Step 2: $5(10 + 8)$

Step 3: $5(18)$

Step 4: 90

One of Todd's steps is incorrect.

A Rewrite the step so it is correct.

Answer: _____

B Using the corrected step from **part A**, simplify the radius of pond A.

Answer: _____

C Simplify the expression for the radius of pond B.

Answer: _____

D Write an inequality to compare the radii of the ponds, using the original expressions.

Answer: _____