1 Which of the following is equivalent to the expression below?

$$100 \times 10^9$$

A. 10^{10}
B. 10^{11}
C. 10^{12}
D. 10^{18}

Mark your answer here: 1. Ⓐ Ⓑ Ⓒ Ⓓ

2 What is the value of the expression below?

$$2(3 + 2)^2 - (-1)^2$$

A. 18
B. 22
C. 49
D. 51

Mark your answer here: 2. Ⓐ Ⓑ Ⓒ Ⓓ

3 What is the value of the expression below?

$$|-3 - 8| - |5 - (-2)|$$

A. -14
B. -2
C. 4
D. 8

Mark your answer here: 3. Ⓐ Ⓑ Ⓒ Ⓓ

4 Based on the equation below, what is the value of y when $x = 5$?

$$y = 4(8 - x)^2$$

A. 12
B. 36
C. 144
D. 156

Mark your answer here: 4. Ⓐ Ⓑ Ⓒ Ⓓ

5 The approximate lengths of two major rivers are listed below.

- Nile River: 2.2×10^7 feet
- Snake River: 5.5×10^6 feet

Based on these lengths, the length of the Nile River is how many times the length of the Snake River?

A. 0.4
B. 2.5
C. 4
D. 25

Mark your answer here: 5. Ⓐ Ⓑ Ⓒ Ⓓ

6 Which of the following is equivalent to the expression below?

$$\sqrt{6} + \sqrt{6}$$

A. $2\sqrt{6}$
B. $\sqrt{12}$
C. 6
D. 12

Mark your answer here: 6. Ⓐ Ⓑ Ⓒ Ⓓ

7 What is the value of the expression below?

$$(3 \cdot 2)^2 - 3 \cdot 2^2$$

A. 0
B. 12
C. 13
D. 24

Mark your answer here: 7. Ⓐ Ⓑ Ⓒ Ⓓ

8 What whole number is equivalent to the expression below?

$$\sqrt{64 \cdot 100}$$

Write your answer here:

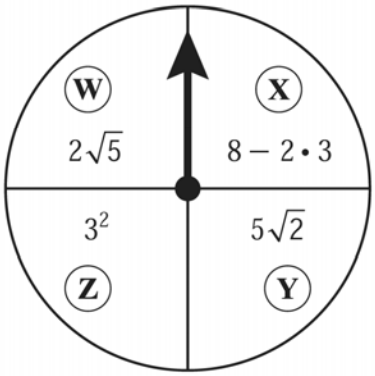
9 What is the value of the expression below?

$$3[1 + 2(1 + 2)]$$

Write your answer here:

Directions: For the problem below, use a separate piece of paper to write your answers. Your teacher will not count anything you write on this page.

10 Thomas plays a number game using a spinner with four congruent sections. The sections are labeled W, X, Y, and Z, as shown below.



In the game, a player receives the number of points represented by the expression in the section where the arrow stops. The first player to get 20 points or more wins.

a. During one game, Thomas needed 10 or more points to win. On his next spin the arrow stopped on section Z. Did he receive enough points to win? Show your work to justify your answer.

b. Which is worth more points, section X or section Z? Show your work to justify your answer.

c. Thomas believes section W and section Y are worth an equal number of points. Is Thomas correct? Explain your reasoning.