Name: _____ Date: _____

BLM 3–10

Chapter 3 Test

For #1 to 5, circle the best answer.

1. In the equation $-(-2)^5 = +32$, which number represents the base of the power?

A 32 **B** –2 **C** –1 **D** 2

2. Which expression is equivalent to $(-2) \times (-2) \times (-2) \times (-2) \times (-2)$?

A 2^5 **B** 32 **C** $(-2)^5$ **D** $-(-2)^5$

3. What is the product of $5^2 \times 5^4$?

A 650 **B** 25^6 **C** 5^8 **D** 5^6

4. Devin was asked to simplify the expression $10 - 2^3 \times (3 - 2^0)^2$.
His work is shown below.

$10 - 2^3 \times (3 - 2^0)^2$
$= 10 - 6 \times (3 - 1)^2$ Step 1
$= 10 - 6 \times 4$ Step 2
$= 10 - 24$ Step 3
$= -14$ Step 4

In which step did Devin make his first mistake?

A Step 1 **B** Step 2 **C** Step 3 **D** Step 4

5. Two students were asked to write each product of powers as a single power.
Their work is shown below.

Danica

$3^3 \times 3^2 = (3 \times 3 \times 3)(3 \times 3)$
$= 3^5$

Frank

$3^3 \times 3^2 = 3^{3 \times 2}$
$= 3^6$

Which of the following statements about their procedures is true?

A Frank's procedure contains a mistake and Danica's does not.

B Danica's procedure contains a mistake and Frank's does not.

C Both Danica and Frank have no mistakes in their procedure.

D Both Danica and Frank have mistakes in their procedure.

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Complete the statements in #6 and 7.

6. The value of $3^3 + 3^0$ is _____.

7. The expression $-\left(\frac{5}{10}\right)^2$ written as a fraction in simplified form is $\frac{\square}{\square}$.

Short Answer

8. Arrange the powers in order from smallest value to largest value.

$(-4)^2$ $(2)^3$ $-(4)^3$ $(-1)^5$

9. Write each expression as repeated multiplication.

a) 3^7= _____

b) $-(-6)^5$ = _____

c) $(4 \times 5)^3$ = _____

10. Write each expression as a power in simplified form.

a) $6^7 \div 6^4 = 6^{\square}$

b) $\left(2^4\right)^3$ = _____

11. A colony of bacteria doubles every hour. There are 50 bacteria now. How many will there be after each amount of time? Show your work.

a) 1 h

b) 4 h

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