Name: _____ Date: _____



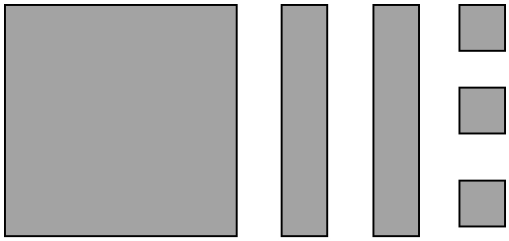
# Chapter 3 Practice Test

**Multiple Choice**

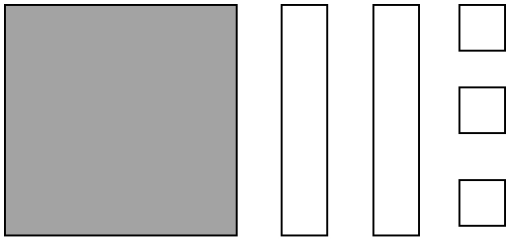
For each question, select the best answer.

**1.** Which model represents the expression $x^2 - 2x + 3$?

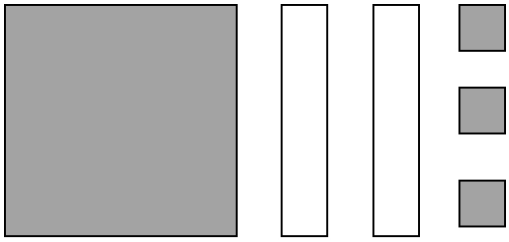
**A**



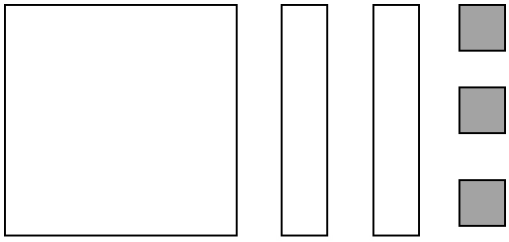
**B**



**C**



**D**



**2.** Which fraction is equal to $\left(\frac{1}{4}\right)^2$?

**A** $\frac{1}{16}$

**B** $\frac{1}{8}$

**C** $\frac{1}{4}$

**D** $\frac{1}{2}$

**3.** Which is the result when $m^5 \times m \div m^4$ is simplified?

**A** $m^9$

**B** $m$

**C** $m^2$

**D** $m^{10}$

**4.** What is the value of $2^3 \times 2^4$?

**A** 48

**B** 128

**C** 4096

**D** 16 384

**5.** What is the value of $7^7 \div 7^5$?

**A** 14

**B** 7

**C** 1

**D** 49

**6.** Which pair of terms are *not* like terms?

**A** $4a$ and $7a$

**B** $2mn$ and $mn^2$

**C** $3p^2q$ and $-p^2q$

**D** $-x$ and $3x$

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**7.** The expression $5a^2b^2 - ab^3$ is a

**A** monomial

**B** binomial

**C** trinomial

**D** term

**8.** The degree of $-b^4d + bd^3 + b^6$ is

**A** 3

**B** 4

**C** 5

**D** 6

**9.** The result of expanding $-4x(3 - x)$ is

**A** $-12x - 4x^2$

**B** $12x + 4x^2$

**C** $-12x + 4x^2$

**D** $12x - 4x^2$

**Short Response**

**10.** Write as a single power, then evaluate.

**a)** $[(-3)^2]^4 \div (-3)^3$

**b)** $\dfrac{\left(7^2\right)^3 \times 7^3}{7^8}$

**11.** Simplify.

**a)** $p^5 \times p^4 \div p^3$

**b)** $(k^4)^2 \times k^5$

**c)** $-15x^3y^2 \div 3y$

**d)** $(-2m^3n^5)^2$

**12.** Simplify.

**a)** $(4k - 1) + (2k + 3)$

**b)** $(2v + 3) - (5v + 4)$

**13.** Expand and simplify.

**a)** $-3(g + 2) + 4(g - 7)$

**b)** $5(a - 3) - (a + 1)$

**c)** $2[m + 4(m - 1)]$

**Extend**

Show all your work.

**14.** Zac saves his nickels and dimes in a jar. He estimates that he has twice as many dimes as nickels.

**a)** Write a simplified expression to represent the total number of coins Zac has.

**b)** Write a simplified expression to represent the total value of the coins, in cents.

**c)** Suppose Zac has 15 nickels. How much money does he have?

**15.** Four actors in a movie opted to be paid different ways.

| Actor | Fixed Rate ($) | Portion of Box Office Sales ($) |
|---|---|---|
| Brad | 500 000 | – |
| Gwyneth | 300 000 | $0.02x$ |
| Joaquim | 150 000 | $0.03x$ |
| Julia | 80 000 | $0.08x$ |

**a)** Write a simplified expression for the total amount to be paid to the four actors.

**b)** In the first week, box office sales were $1 285 000. What was the total amount paid to the actors for that week?