> **Directions:** Please choose the best answer choice for each of the following questions.

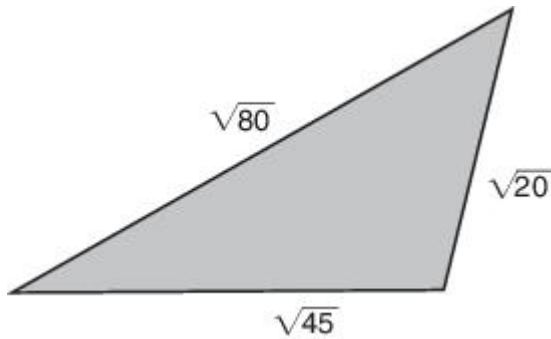1. Simplify.

   $$\sqrt{25x^2y}\cdot\sqrt{32y^4x}$$

   A. $20xy^2\sqrt{2xy}$

   B. $20y^2x^2\sqrt{2y}$

   C. $5xy\cdot4y^2\sqrt{2x}$

   D. $5x^2\sqrt{y}\cdot4y^4\sqrt{2x}$

2. What is $\sqrt{28}+\sqrt{63}$ in simplest form?

   A. $2\sqrt{7}+3\sqrt{7}$

   B. $4\sqrt{7}+9\sqrt{7}$

   C. $13\sqrt{7}$

   D. $5\sqrt{7}$

3. For a classroom exercise, Mrs. Patrick presented this figure and asked four of her students to find its exact perimeter.

   Which student response is correct?

   A. $\sqrt{145}$ units

   B. $9\sqrt{5}$ units

   C. $29\sqrt{5}$ units

   D. $24\sqrt{15}$ units

4. Mrs. Robbins asked her students to simplify this expression.

   $$\sqrt{27}-\sqrt{300}+\sqrt{243}$$

   Which student response is correct?

   A. $-10\sqrt{3}$

   B. $-4\sqrt{3}$

   C. $2\sqrt{3}$

   D. $4\sqrt{3}$

5. What is the simplified form of the expression below?

   $$\sqrt{81}\div(-\sqrt{9})\times\sqrt{144}\div\sqrt{196}\times(-\sqrt{25})\div\sqrt{225}$$

   A. $-\dfrac{6}{7}$

   B. $-\dfrac{36}{49}$

   C. $\dfrac{36}{49}$

   D. $\dfrac{6}{7}$

6. $\dfrac{3x^3-x^2+5x}{x}=$

   A. $3x^2-x+5$

   B. $3x^2-x+5x$

   C. $3x^2-x^2+5x$

   D. $3x^3+5x$

7. $\dfrac{4x^3+x^2}{x^2}=$

   A. $4x^3$

   B. $4x^3+1$

   C. $2x$

   D. $4x+1$

8.

What is the answer to the division problem $\dfrac{3x^2}{y^3} \div \dfrac{x}{y}$?

A. $\dfrac{y^2}{3x}$

B. $\dfrac{y^4}{3x^3}$

C. $\dfrac{3x}{y^2}$

D. $\dfrac{3x^3}{y^4}$

9. Simplify.

$$\frac{2x^5y^2 + 10x^4y^3}{xy^2}$$

A. $12x^4y^3$

B. $12x^8y^3$

C. $2x^3(x + 5y)$

D. $2x^4\left(1 + 5y^3\right)$

10. Find the quotient.

$$\frac{40x^3y - 8x^2y^3 - 32xy^2}{8xy}$$

A. $5x^2 - xy^2 - 4y$

B. $5x^2y - xy^2 - 4xy$

C. $32x^2 - 16xy^2 - 40y$

D. $32x^2y - 16xy^2 - 40xy$

Stop! You have finished this exam.

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