- 1. Which of the following is equivalent to the expression $(2x^4 - 5x^4)^2$?
 - A) $-21x^{8}$ B) $-6x^{8}$ C) $9x^{8}$ D) $9x^{16}$ $= 9x^{8}$

2. Which of the following is equivalent to

$$(2b^3c^2+b^2c-4bc)-(b^3c^2-b^2c-4bc)$$
?

A) 0
$$Zb^{3}C^{2} + b^{2}C - 4bC$$
B) $b^{3}c^{2}$
C) $b^{3}c^{2} + 2b^{2}c$
D) $b^{3}c^{2} + 2b^{2}c - 8bc$

$$b^{3}C^{2} + 2b^{2}C$$

- 3. When completely simplified, $\frac{25^4 \times 5^2}{25^5}$ has a value of:
 - A) 0
 - (B) 1
 - C) 5
 - D) 25

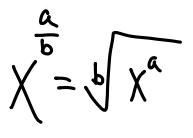
- 25⁴ x 25¹ = 25⁵ 25⁵
 - = |

4. Which of the following is equivalent to

 $x^{\frac{5}{7}}$, for all values of x?

- A) $\frac{5}{x^7}$
- B) $\frac{1}{x^2}$
- C) $\sqrt[5]{x^7}$





5. Which of the following is the expanded

form of 4(5x+3)(2x-1)?

A) $40x^2 + 12$

- A) $40x^2 + 12$ B) $40x^2 12$ $4(10x^2 5x + 6x 3)$
- (D) $40x^2 + 4x 12 = 4(10)^2 + x 3$ $=40x^2+4x-12$

6. If $\frac{a^{x^2}}{a^{(x^2-y^2)}} = a^4$ and y > 0, what is the

value of y?

A) 0

B) 1

$$Q_{X_{5}-X_{5}+Y_{5}}^{2}=Q_{4}^{4}$$

$$Q_{5}=Q_{5}^{4}$$

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7. Which sequence of steps correctly gives the value of $4^{\frac{3}{2}}$ and algebraically justifies the value?

$$4^{\frac{3}{2}} = (4^{2})^{\frac{1}{3}} = \sqrt[3]{4^{2}} = \sqrt[3]{16}$$

$$4^{\frac{3}{2}} = (4^{2}) \div 3 = 16 \div 3 = \frac{16}{3}$$

$$4^{\frac{3}{2}} = (4^{3}) \div 2 = 64 \div 2 = 32$$

$$4^{\frac{3}{2}} = (4^{3})^{\frac{1}{2}} = \sqrt{4^{3}} = \sqrt{64} = 8$$

8. What is the factored form of
$$16x^{6} - 8x^{3}y^{3} + y^{6}? \qquad X = 1$$

$$Y = 1$$

$$A) \quad (4x^{3} - y^{3})^{2} \qquad 9 \quad | 16 - 8 + 1 = 9$$

$$C) \quad (4x + y)^{6} \qquad | 16 - 4 + 1 = 9$$

$$D) \quad (16x^{2} + y)^{3} \quad -4 \quad -4$$

$$16x^{6} - 4x^{3}y^{3} - 4x^{3}y^{3} + 46$$

$$4x^{3} \left(4x^{3} - y^{3}\right) - 4x^{3}y^{3} + 46$$