## Power Properties: The Sequel 7.2A

## #1-6: Multiple choice: Circle the correct answer

1. Which one of the expressions is NOT the same as  $6^{-2}$ ?

$$(A) \frac{1}{6^{-2}}$$

[B] 
$$\left(\frac{1}{6}\right)^2$$

[C] 
$$\frac{1}{6^2}$$

4. Simplify  $4^{-2}$ 

$$(B) \frac{1}{16}$$

[C] 
$$\frac{1}{8}$$

2. Which of the following has the greatest value?

[A] 
$$5^{-2}$$

[B] 
$$(-2)^{0}$$

5. Simplify  $3^2 + 3^4$ 

- [B]729
- [C] 6561

3. Evaluate  $(3^{-2})^{-1}$ 

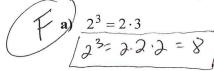
- Which power has the value 16?

$$[A]$$
  $8^2$ 

[B] 
$$4^{-2}$$

$$\begin{array}{c}
|\mathbf{C}| & 4 \\
|\mathbf{C}| & \left(\frac{1}{4}\right)^{-2}
\end{array}$$

True or False? If the equation is false, then correct it to make it true.

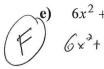


**b)** 
$$\frac{6x^7y^5}{3x^{-1}} = 2x^8y^5$$



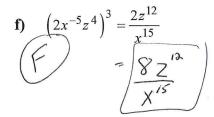
$$xy^{2}z^{-3} \cdot x^{6}yz^{4} = x^{6}y^{2}z$$

d)  $2x^2 \cdot (2x)^4 = 32x^6$  e)  $6x^2 + (3x)^2 = 9x^4$   $6x^3 + 9x^4 = 15x^2$ 



$$6x^{2} + (3x)^{2} = 9x^{4}$$

$$6x^{3} + 9x^{2} = 15x^{2}$$



8. Mr. Nguyen gave his class a problem and asked them to find a number that could replace the question mark.

The problem was 
$$(x^3)^0 = x^7 \cdot x^5$$
.

Jobi says that the question mark should be replaced by 0.

Tiana says that the question mark should be 1.

Katiana says that the question mark should be -5.

Toby says that the question is impossible to answer.

Toby says that the question is imposs

Who is correct? Explain why.

Katiana 
$$(x^3)^5 = x^5 = 1$$

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- Determine the number value that could appropriately replace the question mark to make the equation true.

- a)  $d^{?} \cdot d^{4} = d^{8}$  b)  $(x^{2})^{?} = x^{-6}$  c)  $\frac{w^{?}}{w^{3}} = w^{-3}$  Change  $(x^{2})^{0} = 4^{0}$ We are the number of the number of the second of the sec

#10-1: For the following problems, state what each student did incorrectly and fix their mistake.

10. Sarah's work

- Tyrell's work

Line 1  $\frac{\left(p^{4}d^{-3}q^{5}\right)^{2}}{q^{-1}\left(p^{-2}d^{3}\right)^{-2}} \quad \begin{cases} q^{-1} \text{ is not included} \\ \text{in the parenthesis} \\ \text{for power of a product} \\ \text{for power of a product} \end{cases} \quad \text{Line 1} \quad \left(2n^{-3}\right)^{-4} \cdot 2n^{-3} \quad \left(2n^{-3}\right)^{-4} \cdot 2n^{-3}$ 

12. A friend of yours is having a difficult time understanding why the answer to the following problem is true.

Explain how to simplify the expression to your friend.  $\frac{3x^5 (xy^3)^{-2}}{18x^{-4}y^5} = \frac{x^7}{6y^{11}}$ 

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13. Can you add the following expressions? Explain why or why not and state the answer.

 $-2x^3y^4 + 7x^3y^4 = 5x^3y^4$ 

yes because they are like terms so you just add the coefficients.

- #14-22: Simplify. Your answer should contain only positive exponents.
- 14.  $b^{-2} \cdot (2b)^2$   $b^{-3} + 4b^{-3}$   $4b^{-3} + 4b^{-3}$

15.  $\frac{\left(k^{2}\right)^{-2}}{2k^{0}k}$   $\frac{\left(k^{2}\right)^{-4}}{2(1)!}$   $\frac{1}{2K^{5}}$ 

16.  $\frac{2p^{-3} \cdot p^{2}}{2p^{0}(2p)^{4}}$   $\frac{2p^{-1}}{2 \cdot 1 \cdot |6p^{4}|}$   $\frac{2}{32p^{5}}$   $\frac{2}{|6p^{5}|}$ 

- 17.  $\frac{\left(\frac{c^3r^{-2}p^4}{r^2p^3}\right)^3}{\left(\frac{c^3r^{-2}p^4}{r^3}\right)^3}$   $\frac{c^9\sqrt{6p^3}}{\sqrt{6p^3}}$   $\frac{c^9\sqrt{6p^3}}{\sqrt{6p^3}}$
- 18.  $\left(3(z^2b)^3\right)^2$   $\left(3z^6b^3\right)^2$   $\left(9z^{12}b^6\right)$
- 19.  $2\left(\frac{3x^2}{2}\right)^2$   $2\left(\frac{9x^4}{4}\right)$   $2\left(\frac{9x^4}{4}\right)$

Section 7.2A

Name	•	Period	

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