

Name: _____

Class: _____

Hour: _____

Algebra 1 B What You Need to Know (Chapter 7 Quiz)

A1.7.1.1 / A1.7.1.2 Be able to evaluate expressions containing exponents of zero, integer exponents and negative exponents

Simplify.

$$-9^{-2}$$

$$6^{-2}$$

$$-5^{-2}$$

$$3^{-3}$$

$$3k^{-4}$$

$$5k^{-3}$$

$$p^7q^{-1}$$

$$\frac{7}{r^{-7}}$$

Simplify.

$$\left(\frac{5}{6}\right)^{-2}$$

$$\left(\frac{3}{4}\right)^{-2}$$

$$\frac{x^4}{y^{-6}}$$

$$\frac{a^{-3}}{b^{-2}}$$

Simplify.

$$3^0$$

$$8^0$$

$$\left(\frac{2}{5}\right)^0$$

Simplify.

$$4m^0$$

$$2x^0y^{-4}$$

$$8f^{-4}g^0$$

A1.7.3.1 Be able to identify if an exponential expression is completely simplified

/// ERROR ANALYSIS /// Look at the two equations below. Which is incorrect?

Explain the error.

A

$$5x^{-3} = \frac{1}{5x^3}$$

B

$$5x^{-3} = \frac{5}{x^3}$$

True or False. You may leave a zero or negative exponent in a simplified expression.

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A1.7.3.2, A1.7.3.3, and A1.7.3.4 Be able to use the multiplication properties of exponents to completely simplify expressions

Simplify.

$$5^3 \cdot 5^3$$

$$3^5 \cdot 3^{-3}$$

$$p^4 \cdot p^5$$

$$n^6 \cdot n^2$$

$$k^5 \cdot k^{-2} \cdot k^{-3}$$

$$x^2 \cdot x^{-3} \cdot x^4$$

$$a^5 \cdot a^0 \cdot a^{-5}$$

$$a^3 \cdot a^{-6} \cdot a^{-2}$$

$$x^2 \cdot y^{-3} \cdot x^{-2} \cdot y^{-3}$$

$$x^7 \cdot x^{-6} \cdot y^{-3}$$

Simplify.

$$(x^2)^5$$

$$(y^4)^8$$

$$(p^3)^3$$

$$(3x^4)^3$$

$$(2x^5)^3$$

$$(-4d^7)^2$$

A1.7.3.5 Be able to simplify complex exponential expressions using multiple properties

Simplify.

$$(a^{-3})^4 \cdot (a^7)^2$$

$$(cd^6)^3 \cdot (c^5d^2)^2$$

$$xy \cdot (x^2)^3 \cdot (y^3)^4$$

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A1.7.4.1, A1.7.4.2, and A1.7.4.3 Be able to use the division properties of exponents to completely simplify expressions

Simplify.

$$\frac{6^9}{6^7}$$

$$\frac{12a^5}{3a^2}$$

$$\frac{x^4y^8}{x^6y^6}$$

$$\frac{5m^2n^4}{m^2n}$$

$$\left(\frac{3}{5}\right)^3$$

$$\left(\frac{a^3b^2}{ab^3}\right)^6$$

$$\left(\frac{4p^3}{2pq^4}\right)^2$$

$$\left(\frac{12a^3b^2}{3ab^3}\right)^6$$

$$\left(\frac{x^2}{y^5}\right)^{-5}$$

$$\left(\frac{1}{4}\right)^{-2}\left(\frac{6x}{7}\right)^{-2}$$

$$\left(\frac{8w^7}{16}\right)^{-1}$$

$$\left(\frac{x^3y^4}{xy^5}\right)^{-3}$$