

Number & Algebra Assessment

ACMNA231 – Index Laws



Name:



Assessment



Navigator



Student



30 min

Score:

Teacher:

Q.1. Which one of the following shows a correct simplification of: $a^2 \times a^3$?

- a) a^5 b) $(a^2)^3$ c) a^6 d) $2a^5$ e) $(a^3)^2$

Q.2. Which one of the following shows a correct simplification of: $2x^3 \times 3x^4$?

- a) $6x^{12}$ b) $5x^{12}$ c) $5x^7$ d) $6x^7$ e) $(6x^3)^4$

Q.3. Which one of the following is **not** equivalent to: $8y^9$?

- a) $2y^6 \times 4y^3$ b) $4y^6 + 4y^3$ c) $8y^8 \times y$ d) $8y^5 \times y^4$ e) $(6+2)y^9$

Q.4. The expression $\frac{b^6}{b^2}$ can also be written as:

- a) b^3 b) b^{-4} c) b^4 d) b^8 e) 3

Q.5. Which one of the following is equal to: $\frac{9c^{12}}{3c^4}$?

- a) $3c^3$ b) $3 \times c^{(12-4)}$ c) $6 \times c^{(12-4)}$ d) $6 \times c^{(12+4)}$ e) $3c^{(12+4)}$

Q.6. The expression $\frac{t^5}{t^6}$ can also be written as:

- a) t b) $-t$ c) $\frac{5}{6}$ d) $\frac{5}{t^6}$ e) t^{-1}

Q.7. When simplified, $2a^{-1} \times 4b^3 \times a^3b^4$, can be written as:

- a) $6a^2b^7$ b) $\frac{8b^{12}}{a^2}$ c) $8a^2b^7$ d) $8a^{-3}b^{12}$ e) $\frac{8b^7}{a^{-2}}$

Q.8. Which of the following shows a correct simplification of: $a^2 \times b^2$?

- a) ab^4 b) $(ab)^2$ c) $(ab)^4$ d) $a^4 \times b^4$ e) $\sqrt{a \times b}$

Q.9. When simplified $\frac{x^2 y^3 z}{x^6 y^7 z^2} \times \frac{x^7 y^{10} z^4}{xy^6 z^2}$ is equal to:

- a) x^3 b) $\frac{x^8}{y^{12}}$ c) $x^{-2} z^{-1}$ d) $x^2 z$ e) $x^2 yz$

Q.10. When simplified $\frac{(2x^5 y^{-1})^2}{x^3 y} \div \frac{8xy^{-3}}{5x^4 y^5}$ is equal to:

- a) $\frac{5x^{10} y^5}{2}$ b) $\frac{5x^{10}}{2y^4}$ c) $\frac{32x^2}{5y^{15}}$ d) $\frac{5x^{10}}{-2y^4}$ e) $\frac{2}{5x^{10} y^5}$