Printable Assessments
CAMI Maths: Grade 8

Exponential form

1. Calculate the following:

(a) $(3)^4$
(b) -2^5
(c) $(15)^0$
(d) $(-1)^3$
(e) $2(3)^2$

2. Apply the exponential laws to simplify the following:

(a) $(q^2)^5$
(b) $(-5^7)^4$
(c) $2p^2 \times 3p^3 \times p^3$
(d) $(e^2f)(e^3f^4)$
(e) $(-e)^{12} \div (e)^4$
(f) $(-5)^3 \times (-5)^6 \div (-5)^5$
(g) $\frac{4m_{13}p^{11}}{2m^6p^6}$
(h) $(\frac{n^4y^4}{n^2y^3})^7$
(i) $(-2f)(-4f)$
(j) $(-2m^6)(-3m^6)(4m^2)$

P.O.Box 1260 Cresta 2118 www.camiweb.com
Tel (011)476 2020 Fax(011)476 6824

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MEMO

1. Calculate the following: **[1.8.4.1]**

(a) $(3)^4 = 3 \times 3 \times 3 \times 3 = 81$

(b) $-2^5 = -2 \times -2 \times -2 \times -2 \times -2 = -32$

(c) $(15)^0 = 1$

(d) $(-1)^3 = -1$

(e) $2(3)^2 = 2 \times 3 \times 3 = 18$

2. Apply the exponential laws to simplify the following:
[4.3.1.1; 4.3.1.2; 4.3.1.3; 4.3.1.4; 4.3.1.5]

(a) $(q^2)^5 = q^{2 \times 5} = q^{10}$

(b) $(-5^7)^4 = (-5)^{7 \times 4} = (-5)^{28}$

(c) $2p^2 \times 3p^3 \times p^3 = 2 \times 3 \times p^{2+3+3} = 6p^8$

(d) $(e^2f)(e^3f^4) = e^{2+3}.f^{1+4} = e^5f^5$

(e) $(-e)^{12} \div (e)^4 = e^{12} \div e^4 = e^{12-4} = e^8$

(f) $(-5)^3 \times (-5)^6 \div (-5)^5$

$= (-5)^{3+6} \div (-5)^5$

$= (-5)^9 \div (-5)^5$

$= (-5)^{9-5}$

$= (-5)^4$

(g)

$$= (4 \div 2).m^{13-6}.p^{11-6} = 2m^7p^5$$

(h)

$$= (n^{4-2}y^{4-3})^7 = (n^2y)^7 = n^{14}y^7$$

[4.4.2.1; 4.4.2.2]

(i) $(-2f)(-4f) = (-2) \times (-4) \times f^{1+1} = 8f^2$

(j) $(-2m^6)(-3m^6)(4m^2) = (-2 \times -3 \times 4) \times (m^{6+6+2}) = 24m^{14}$