

key

EXPONENT WARM-UP

SIMPLIFY EACH PRODUCT:

13) $10^{12} \cdot 10^{35} = 10^{47}$

19) $a^6 \cdot b^5 = a^6 b^5$

20) $10^a \cdot 10^b = 10^{a+b}$

SIMPLIFY EACH PRODUCT:

22) $(2x^2)(4x^3y^2) = 8x^5y^2$

23) $(-3a^2b)(6ab^4c) = -18a^3b^5c$

26) $(9x^{10}z^2)(-x^5y^3) = -9x^{15}y^3z^2$

SIMPLIFY EACH EXPRESSION:

31) $(x^2)^3 = x^6$

38) $(4y^3)^2 = 16y^6$
or $4^2 y^6$

41) $(y^4d^6)^8 = y^{32}d^{48}$

43) $(k^9)^5(k^3)^2 = k^{45}k^6 = k^{51}$

44) $(3y^6)^2(x^5y^2z) = 3^2y^{12}x^5y^2z = 3^2y^{14}x^5z$
or $9y^{14}x^5z$

45) $(4h^3)^2(-2g^3h)^3 = -8g^9h^9$

SIMPLIFY EACH EXPRESSION:

62) $\left(\frac{x}{y}\right)^6 = \frac{x^6}{y^6}$

63) $\left(\frac{5c}{d^2}\right)^2 = \frac{5^2c^2}{d^4}$

64) $\left(\frac{4d^3}{c^5}\right)^3 = \frac{4^3d^9}{c^{15}}$

65) $\left(\frac{3w}{g^6}\right)^4 = \frac{3^4w^4}{g^{24}}$

$$66) \left(\frac{-4s^6}{t^3r^5} \right)^3 =$$

$$\frac{(-4)^3 s^{18}}{t^9 r^{15}}$$

$$67) \left(\frac{-2d^{11}f^6}{c^{18}} \right)^2 =$$

$$\frac{(-2)^2 d^{22} f^{12}}{c^{36}}$$

$$68) \left(\frac{2d^4}{4e} \right)^3 =$$

$$\frac{d^{12}}{2^3 e^3}$$

$$69) \frac{6r^3}{2r} = 3r^2$$

$$70) \frac{-40s^6}{20s^3} = -2s^3$$

$$71) \frac{21d^{18}e^5}{7d^{11}e^3} = 3d^7e^2$$

$$72) \frac{-16w^7r^2}{-4wr} = 4w^6r$$

$$73) \frac{a^5b^5c^5}{-a^2b^3c^4} =$$

$$-\frac{a^3b^2c}{1}$$

$$= -a^3b^2c$$

$$74) \frac{4.2x^4y^{14}}{0.6x^9y^5} = \frac{7y^9}{x^5}$$

$$75) \left(\frac{-24t^6}{8t^3} \right)^5 =$$

$$= (3t^3)^5$$

$$= 3^5 t^{15}$$

$$76) \left(\frac{d^{11}f^{16}}{d^6f^6} \right)^3 =$$

$$(d^5 f^{10})^3$$

$$= d^{15} f^{30}$$

$$77) \left(\frac{7d^2}{14d^4} \right)^5 = \left(\frac{1}{2d^2} \right)^5$$

$$= \frac{1}{2^5 d^{10}}$$