

Test 1 Review

$$\textcircled{1} \quad 36 - 2 \cdot 6 + 4 = 28$$

$$\textcircled{2} \quad -2 \cdot 9 - 3 \cdot 7 = -39$$

$$\textcircled{3} \quad 4(4-6)^2 + 7^2 = 65$$

$$\textcircled{4} \quad \frac{-7 \cdot 3 + 27}{(27-25)^2} = \frac{6}{4} = \frac{3}{2}$$

$\textcircled{5}$ Evaluate $(a + b) - c$; $a = -8$ $b = -2$ $c = -9$

$$((-8) + (-2)) - (-9) = -1$$

$$\textcircled{6} \quad \frac{5m - 2n}{m + n}$$

$$m = 5$$
$$n = -3$$

$$= \frac{5(5) - 2(-3)}{(5) + (-3)} = \frac{31}{2}$$

$$\textcircled{7} \quad 4t^2 + 12t - 3 \quad ; \quad t = -2$$

$$4(-2)^2 + 12(-2) - 3 = ~~2~~ -11$$

$$\textcircled{8} \quad 15(5y + -4) + -12y$$

$$15(5y) + 15(-4) + -12y$$

$$75y + -60 + -12y =$$

$$63y + -60 = 63y - 60$$

Combine like terms

$$\textcircled{9} \quad \begin{array}{ccccccc} 5x & + & -10 & & + & 10x & + & -8 & + & -8x \\ \hline & & \underline{\underline{}} & & & \hline & & & & & \hline \end{array}$$

$$7x + -18$$

$$7x - 18$$

$\textcircled{10}$ 36 less than twice a number.
x

$$2x - 36$$

$$\textcircled{11} \quad (-8)^2 = 64$$

$$\textcircled{12} \quad -33 \cdot (y^0) = -33 \cdot 1 = -33$$

$$\textcircled{13} \quad -3^2 = -9$$

$$\textcircled{14} \quad (-35)^0 = 1$$

$$(15) 2^4 \cdot 2^3 = 2^4 * 2^3 = 128$$

$$(16) (3p'')^4 = 3 \cdot p'' \cdot 3 \cdot p'' \cdot 3 \cdot p'' \cdot 3 \cdot p''$$
$$= 3 \cdot 3 \cdot 3 \cdot 3 \cdot p'' \cdot p'' \cdot p'' \cdot p''$$
$$= 81 \cdot p''^4$$

$$(17) (-8 \cdot x^6 \cdot y^3) \cdot (12 \cdot x^2 \cdot y^6)$$
$$= -8 \cdot 12 \cdot x^6 \cdot x^2 \cdot y^3 \cdot y^6$$
$$= -96 \cdot x^8 \cdot y^9$$

$$(18) (3y^5)^2 \cdot (6y^8)^2$$

$$= 3 \cdot y^5 \cdot 3 \cdot y^5 \cdot 6 \cdot y^8 \cdot 6 \cdot y^8$$

$$= 3 \cdot 3 \cdot 6 \cdot 6 \cdot \underbrace{y^5 \cdot y^5 \cdot y^8 \cdot y^8}$$
$$324 \cdot y^{26}$$

$$(19) \left(\frac{7}{3}\right)^{-2} = \left(\frac{3}{7}\right)^2 = \frac{3^2}{7^2} = \frac{9}{49}$$

$$(20) (-25)^0 = 1$$

$$(21) \frac{p^{-6}}{q^{-8}} = \frac{q^8}{p^6}$$

$$(22) -9 \cdot b^{-2} = -9 \cdot \frac{1}{b^2} = \frac{-9}{b^2}$$

$$(23) \quad \frac{6 \cdot t^7 \cdot u^{-8}}{11 \cdot v^{-9} \cdot w^3} = \frac{6 \cdot t^7 \cdot v^9}{11 \cdot w^3 \cdot u^8}$$

$$(24) \quad \frac{6 \cdot x^6 \cdot y^9}{15 \cdot x^8 \cdot y^{12}} = \frac{2}{5} \cdot x^{6-8} \cdot y^{9-12}$$

$$= \frac{2}{5} \cdot x^{-2} \cdot y^{-3}$$

$$= \frac{2}{5} \cdot \frac{1}{x^2} \cdot \frac{1}{y^3} = \frac{2}{5 \cdot x^2 \cdot y^3}$$

$$\frac{14 \cdot a^4 \cdot b^1}{12 \cdot a^{11} \cdot b^4}$$

$$= \frac{7}{6} \cdot a^{4-11} \cdot b^{1-4}$$

$$= \frac{7}{6} \cdot a^{-7} \cdot b^{-3} = \frac{7}{6} \cdot \frac{1}{a^7} \cdot \frac{1}{b^3} = \frac{7}{6a^7b^3}$$

$$(25) \left(-\frac{16 \cdot x^3 \cdot y^{-5}}{8 \cdot x^{-6} \cdot y^4} \right)^{-3}$$

$$\left(-\frac{8 \cdot x^{-6} \cdot y^4}{16 \cdot x^3 \cdot y^{-5}} \right)^{-3}$$

$$\frac{-8 \cdot x^{-6} \cdot y^4}{16 \cdot x^3 \cdot y^{-5}} \cdot \frac{-8 \cdot x^{-6} \cdot y^4}{16 \cdot x^3 \cdot y^{-5}} \cdot \frac{-8 \cdot x^{-6} \cdot y^4}{16 \cdot x^3 \cdot y^{-5}}$$

$$\frac{-512 \cdot x^{-18} \cdot y^{12}}{4096 \cdot x^9 \cdot y^{-15}} = -\frac{1}{8} \cdot x^{-18-9} \cdot y^{12-15}$$

$$= -\frac{1}{8} \cdot x^{-27} \cdot y^{27}$$

$$= -\frac{1}{8} \cdot \frac{1}{x^{27}} \cdot \frac{y^{27}}{1} = \frac{-1y^{27}}{8x^{27}}$$

$$(26) \quad \sqrt{64} = 8$$

$$(27) \quad \sqrt{\frac{81}{121}} = \frac{\sqrt{81}}{\sqrt{121}} = \frac{9}{11}$$

$$(28) \quad \sqrt[3]{64} = 3^{\sqrt{64}} = 4$$

$$(29) \quad \sqrt{-121} = \text{nonreal}$$

$$(30) \quad \sqrt[16]{a^{16}} = |a|$$
$$\sqrt[15]{a^{15}} = a$$

$$\sqrt[14]{a^{14}} = |a|$$

$$\sqrt[13]{a^{13}} = a$$

$$\sqrt[12]{a^{12}} = |a|$$

$$\sqrt[11]{a^{11}} = a$$