

Unit 1 Review

Evaluate each expression.

1) $-3 - 5 + 2 + -1$

$$\underline{-3 - 5 - 2}$$

$$-8 - 2$$

$$\boxed{-10}$$

3) $(3 \times 2 - 1) + -1$

$$(6 - 1) \div -1$$

$$5 \div -1$$

$$\boxed{-5}$$

5) $\frac{1}{7} + (-\frac{5}{8})$

$$\frac{8}{56} + \frac{-35}{56}$$

$$\boxed{\frac{-27}{56}}$$

7) $(-7.8) + 4.8$

$$4.8$$

$$\boxed{-3.0}$$

diff. signs = subtract

2) $-4 - 3 - -2 - 2$

$$\underline{-7 + +2 - 2}$$

$$-5 - 2$$

$$\boxed{-7}$$

4) $(11 - 3) + (-3 + 1)$

$$8 \div -2$$

$$\boxed{-4}$$

6) $(-\frac{7}{6}) + (-\frac{4}{5})$

$$\frac{-35}{30} + \frac{-24}{30}$$

$$\boxed{\frac{-59}{30}}$$

8) $(-4.6) + 6.67$

$$4.60$$

$$\boxed{2.07}$$

9) $(-\frac{1}{7}) + (\frac{4}{7})$

$$\boxed{\frac{3}{7}}$$

10) $(-1) - (-\frac{1}{8})$

$$\frac{-8}{8} + \frac{+1}{8}$$

$$\boxed{\frac{-7}{8}}$$

$$11) (-2.9) + 3.7$$

$$\begin{array}{r} 3.7 \\ -2.9 \\ \hline -6.6 \end{array}$$

same signs = ADD

$$12) (-2.2) + (+2.5)$$

$$\begin{array}{r} 2.5 \\ -2.2 \\ \hline 0.3 \end{array}$$

$$13) (-2.7)(-0.9)$$

$$\boxed{2.43}$$

$$\begin{array}{r} 2.7 \\ \times 0.9 \\ \hline 243 \end{array}$$

$$14) (-6.7)(-3.1)$$

$$\boxed{20.77}$$

$$\begin{array}{r} 6.7 \\ \times 3.1 \\ \hline 2077 \end{array}$$

$$15) \frac{2}{1} \left(-\frac{5}{8} \right)$$

$$\frac{-10}{8} \rightarrow \boxed{\frac{-5}{4}}$$

$$16) \left(-\frac{4}{3} \right) \left(-\frac{4}{3} \right)$$

$$\boxed{\frac{16}{9}}$$

$$17) -1 \div \frac{-3}{2}$$

$$\frac{-1}{1} \cdot \frac{2}{-3} \rightarrow \frac{-2}{-3} \rightarrow \boxed{\frac{2}{3}}$$

$$18) \frac{-6}{5} \div \frac{-5}{4}$$

$$\frac{-6}{5} \cdot \frac{4}{-5} \rightarrow \frac{-24}{-25} \rightarrow \boxed{\frac{24}{25}}$$

$$19) -3.6 \div -1.6$$

$$\boxed{2.25}$$

$$\begin{array}{r} 2.25 \\ 1.6 \overline{) 3.600} \\ \underline{-32} \\ 40 \\ \underline{-32} \\ 80 \\ \underline{-80} \\ 00 \\ \underline{-00} \\ 0 \end{array}$$

$$20) 2.3 \div 0.1$$

$$\boxed{23}$$

$$\begin{array}{r} 23. \\ 0.1 \overline{) 2.3} \\ \underline{02} \\ 30 \\ \underline{03} \\ 0 \end{array}$$

Write the name of the place-value of the underlined digit in the given number.

$$21) 5,842,844$$

thousands

$$22) 91.3508$$

hundredths

23) 83,054

ones

24) 7.63 982 7

thousandths

Round each number to the place indicated by the underlined digit.

25) 7.95 8

8.0

26) 64,202,090

64,200,000

27) 30,229.5

30,000

28) 2,295.8

2,000

Solve each equation.

29) $\frac{n - 2.9}{3} = -0.8$ (3)

$n - 2.9 = -2.4$
 $+2.9 \quad +2.9$

$n = 0.5$

diff. signs means subtract.

30) $\frac{x + 2.4}{3} = 2.4$ (3)

$x + 2.4 = 7.2$
 $-2.4 \quad -2.4$

$x = 4.8$

$\frac{24}{3} = 8$

100 31) $31.26 = 3(2.3 - 2.9a)$
 $31.26 = 6.9 - 8.7a$
 $-6.9 \quad -6.9$
 $24.36 = -8.7a$
 $-8.7 \quad -8.7$

$a = \frac{-406}{87}$

$a = \frac{-14}{5}$ or -2.8

10 32) $3(3m + 2.4) = 34.2$
 $9m + 7.2 = 34.2$
 $90m + 72 = 342$
 $-72 \quad -72$
 $90m = 270$
 $90 \quad 90$

$m = 3$

33) $\frac{3}{2} = n - 2n$

$\frac{3}{2} = -n$

$-\frac{3}{2} = n$

34) $-2x + 2x = 0$
 $0 = 0$

All real #s
 or
 Infinite solutions

$$35) \left(\frac{3}{2^p} - \frac{3}{2^p} = -\frac{7}{2} \right)^{\neq}$$

$$3p - 3p = -7$$

$$0 = -7$$

No solution

$$36) \left(-\frac{7 \cdot 3}{2^n} + \frac{3 \cdot 3}{2^n} = -\frac{2 \cdot 2}{3} \right)^6$$

$$-21n + 9n = -4$$

$$\frac{-12n}{-12} = \frac{-4}{-12}$$

n = 1/3

Simplify. Your answer should contain only positive exponents.

$$37) 8n^2 \cdot 6n^{-4}$$

$$\frac{48n^{-2}}{1} \rightarrow \frac{48}{n^2}$$

$$38) 4a^{-1} \cdot 4a^1$$

$$16a^0$$

16

$$39) \frac{x^2}{6x}$$

$\frac{x}{6}$

$$40) \frac{4a^3}{7a^{-2}}$$

$$\frac{4a^2a^3}{7} \rightarrow \frac{4a^5}{7}$$

$\frac{4a^5}{7}$

$$41) -\frac{u^{-1}v^5 \cdot -u^{-3}v^5}{(u^{-4}v^3)^4}$$

$$\frac{-1 \cdot u^{-1}v^5 \cdot -1 \cdot u^{-3}v^5}{u^{16}v^{12}}$$

$$\frac{1 \cdot u^{-4}v^{10}}{u^{16}v^{12}} \rightarrow \frac{v^{10}v^{12}}{u^4u^{16}} \rightarrow \frac{v^{22}}{u^{20}}$$

$\frac{v^{22}}{u^{20}}$

$$42) \frac{(x^2)^5 \cdot 2x^3y^4}{2xy^{-5}}$$

$$\frac{x^{10} \cdot 2x^3y^4}{2xy^{-5}}$$

$$\frac{x^{13}y^9}{x} \rightarrow \frac{x^{12}y^9}{1}$$

$x^{12}y^9$

$$43) \left(\frac{(-1)^4y^2}{(-2)^4y^5 \cdot (-1)^{-5}y^0} \right)^2$$

$$\frac{(-1)^2x^8y^4}{(-2)^2x^8y^{10} \cdot (-1)^2x^{-10}} \rightarrow \frac{1 \cdot y^4x^{10}}{4y^{10} \cdot 1}$$

$\frac{1x^{10}}{4y^6}$

$$44) \frac{(2a^2)^{-3}}{-2a^4b^2 \cdot 2a^{-1}} \cdot \frac{1}{(-4)(2)^3a^3b^2}$$

$$\frac{1}{(-4)(8)a^9b^2} \rightarrow \frac{-1}{32a^9b^2}$$

$\frac{-1}{32a^9b^2}$