Elementary Algebra Skill

Evaluating Algebraic Expressions Using Fractional Values

Evaluate each using the values given.

1) $p - 6m$; use $m = \dfrac{4}{5}$, and $p = \dfrac{1}{6}$

2) $y(x - y)$; use $x = -1$, and $y = 2\dfrac{2}{5}$

3) $x - \dfrac{y}{x}$; use $x = \dfrac{1}{2}$, and $y = -3\dfrac{1}{5}$

4) $z - 1 + x$; use $x = \dfrac{1}{6}$, and $z = 3\dfrac{5}{6}$

5) $-4 - (y^2 - z)$; use $y = -2$, and $z = 5$

6) $4y - \dfrac{y}{z}$; use $y = \dfrac{3}{5}$, and $z = \dfrac{4}{3}$

7) $4y(y + x)$; use $x = \dfrac{3}{2}$, and $y = -\dfrac{5}{4}$

8) $p \div (4 + p + m)$; use $m = -\dfrac{1}{5}$, and $p = \dfrac{3}{2}$

9) $q + \dfrac{-3 - p + 2}{q + p}$; use $p = -\dfrac{8}{5}$, and $q = -\dfrac{3}{2}$

10) $y^2 - (y + x^2 + 3)$; use $x = \dfrac{3}{2}$, and $y = -\dfrac{6}{5}$

11) $x^2 |z|$; use $x = -\dfrac{4}{3}$, and $z = -2\dfrac{2}{3}$

12) $y^2 - z^2$; use $y = \dfrac{1}{4}$, and $z = \dfrac{4}{5}$

13) $\dfrac{|y^2|}{x}$; use $x = 2\dfrac{1}{3}$, and $y = 2$

14) $-4z(z + y)$; use $y = 1\dfrac{1}{6}$, and $z = 2$

15) $-20z(x + z)$; use $x = -1\dfrac{1}{4}$, and $z = -\dfrac{5}{6}$

16) $x - zx(z - y)$; use $x = 2$, $y = \dfrac{7}{6}$, and $z = 3\dfrac{1}{3}$

17) $\dfrac{-5}{z} + y - \dfrac{z}{y}$; use $y = -1$, and $z = -1\dfrac{1}{3}$

18) $2y - z + (-2)^3$; use $y = -6$, and $z = -2\dfrac{3}{4}$

19) $4y - \left(x^2 - \dfrac{z}{2}\right)$; use $x = 1$, $y = 3$, and $z = 2$

20) $\dfrac{pr(r - p)}{4} - 3$; use $p = 2$, and $r = 4$

Answers to Evaluating Algebraic Expressions Using Fractional Values

1) $-\dfrac{139}{30}$

2) $-\dfrac{204}{25}$

3) $\dfrac{69}{10}$

4) 3

5) -3

6) $\dfrac{39}{20}$

7) $-\dfrac{5}{4}$

8) $\dfrac{15}{53}$

9) $-\dfrac{105}{62}$

10) $-\dfrac{261}{100}$

11) $\dfrac{128}{27}$

12) $-\dfrac{231}{400}$

13) $\dfrac{12}{7}$

14) $-\dfrac{76}{3}$

15) $-\dfrac{625}{18}$

16) $-\dfrac{112}{9}$

17) $\dfrac{17}{12}$

18) $-\dfrac{69}{4}$

19) 12

20) 1