**Evaluate the expression if**$ x=1$**,** $y=3$**, and** $z=4$**.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | $$3y^{3}-\left(z-x^{2}\right)$$ |  | $$\left[7+4x+\left(5yx÷3\right)\right]÷\left(yz-3\right)$$ |
|  | $$\frac{xy^{2}-3z}{3}$$ |  | $$\frac{2xz-y^{3}}{2y}$$ |
|  | $$\left(\frac{3z}{y}\right)^{2}-\frac{3z-10}{\left(y-x\right)^{2}}$$ |  |  |

**ANSWER**

**Evaluate the expression if**$ x=1$**,** $y=3$**, and** $z=4$**.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | $$3y^{3}-\left(z-x^{2}\right)$$$$=3\left(3\right)^{3}-\left(z-1^{2}\right)$$$$=3\left(27\right)-\left(4-1\right)$$$$=81-\left(3\right)$$$$=81-3$$$$=78$$ |  | $$\left[7+4x+\left(5yx÷3\right)\right]÷\left(yz-3\right)$$$$=\left[7+4\left(1\right)+\left(5\left(3\right)\left(1\right)÷3\right)\right]÷\left(\left(3\right)\left(4\right)-3\right)$$$$=\left[7+4+\left(15÷3\right)\right]÷\left(12-3\right)$$$$=\left[11+\left(15÷3\right)\right]÷\left(9\right)$$$$=\left[11+5\right]÷9$$$$=16÷9$$$$=\frac{16}{9}$$ |
|  | $$\frac{xy^{2}-3z}{3}$$$$=\frac{\left(1\right)\left(3^{2}\right)-3\left(4\right)}{3}$$$$=\frac{1\left(9\right)-12}{3}$$$$=\frac{9-12}{3}$$$$=\frac{-3}{3}$$$$=-1$$ |  | $$\frac{2xz-y^{3}}{2y}$$$$=\frac{2\left(3\right)\left(4\right)-3^{3}}{2(3)}$$$$=\frac{2\left(12\right)-27}{6}$$$$=\frac{24-27}{6}$$$$=\frac{-3}{6}$$$$=-\frac{1}{2}$$ |
|  | $$\left(\frac{3z}{y}\right)^{2}-\frac{3z-10}{\left(y-x\right)^{2}}$$$$=\left(\frac{3\left(4\right)}{3}\right)^{2}-\frac{3\left(4\right)-10}{\left(3-1\right)^{2}}$$$$=\left(4\right)^{2}-\frac{12-10}{\left(2\right)^{2}}$$$$=16-\frac{2}{4}$$$$=16-\frac{1}{2}$$$$=\frac{31}{2}$$ |  |  |