**Evaluate the expression if**$ x=8$**,** $y=3$**, and** $z=12$**.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | $$3y^{3}-\left(z-x^{2}\right)$$ |  | $$\left[7+4x+\left(5yx÷2\right)\right]÷\left(yz-3\right)$$ |
|  | $$\frac{xy^{2}-3z}{2}$$ |  | $$\frac{2xz-y^{3}}{y}$$ |
|  | $$\left(\frac{z}{y}\right)^{2}-\frac{3z-11}{\left(y-x\right)^{2}}$$ |  |  |

**ANSWER**

**Evaluate the expression if**$ x=8$**,** $y=3$**, and** $z=12$**.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | $$3y^{3}-\left(z-x^{2}\right)$$$$=3\left(3\right)^{3}-\left(12-8^{2}\right)$$$$=3\left(27\right)-\left(12-64\right)$$$$=81-\left(-52\right)$$$$=81+52$$$$=133$$ |  | $$\left[7+4x+\left(5yx÷2\right)\right]÷\left(yz-3\right)$$$$=\left[7+4\left(8\right)+\left(5\left(3\right)\left(8\right)÷2\right)\right]÷\left(\left(3\right)\left(12\right)-3\right)$$$$=\left[7+32+\left(5\left(24\right)÷2\right)\right]÷\left(36-3\right)$$$$=\left[39+\left(120÷2\right)\right]÷\left(33\right)$$$$=\left[39+60\right]÷33$$$$=99÷33$$$$=3$$ |
|  | $$\frac{xy^{2}-3z}{2}$$$$=\frac{\left(8\right)\left(3^{2}\right)-3\left(12\right)}{2}$$$$=\frac{8\left(9\right)-36}{2}$$$$=\frac{72-36}{2}$$$$=\frac{36}{2}$$$$=18$$ |  | $$\frac{2xz-y^{3}}{y}$$$$=\frac{2\left(8\right)\left(12\right)-3^{3}}{3}$$$$=\frac{2\left(96\right)-27}{3}$$$$=\frac{192-27}{3}$$$$=\frac{165}{3}$$$$=55$$ |
|  | $$\left(\frac{z}{y}\right)^{2}-\frac{3z-11}{\left(y-x\right)^{2}}$$$$=\left(\frac{12}{3}\right)^{2}-\frac{3\left(12\right)-11}{\left(3-8\right)^{2}}$$$$=\left(4\right)^{2}-\frac{36-11}{\left(-5\right)^{2}}$$$$=16-\frac{25}{25}$$$$=16-1$$$$=15$$ |  |  |