Please find the distance, midpoint, and slope between the following points:
$(-5,6)$ and $(1,-2)$

$$
d=\sqrt{\left(x_{1}-x_{2}\right)^{2}+\left(y_{1}-y_{2}\right)^{2}}
$$

midpoint: $\left(\frac{x_{1}+x_{2}}{2}, \frac{y_{1}+y_{2}}{2}\right)$
slope: $\frac{y_{2}-y_{1}}{x_{2}-x_{1}}$


$$
\begin{aligned}
& d=\sqrt{\left(x_{1}-x_{2}\right)^{2}+\left(y_{1}-y_{2}\right)^{2}} \\
& d=\sqrt{(-5-1)^{2}+(6--2)^{2}}
\end{aligned}
$$

$$
\begin{aligned}
& d=\sqrt{(-6)^{2}+(8)^{2}} \\
& d=\sqrt{36+64} \\
& d=\sqrt{100} \\
& d=10
\end{aligned}
$$

$(-5,6) \quad(1,-2)$ Midpoint

$$
\begin{aligned}
& \left(\frac{x_{1}+x_{2}}{2}, \frac{y_{1}+y_{2}}{2}\right) \\
& \left(\frac{-5+1}{2}, \frac{6+-2}{2}\right) \\
& \left(\frac{-4}{2}, \frac{4}{2}\right)
\end{aligned}
$$

$$
(-2,2)
$$

SLOPE $\begin{array}{ccc}x_{1} & y_{1} & x_{2} y_{2} \\ -5,6) & (1,-2)\end{array}$

$$
m=\frac{y_{2}-y_{1}}{x_{2}-x_{1}}=\frac{-2-6}{1--5}=\frac{-8}{6}
$$

$-\frac{-4}{3}$ reduce
9/29 How I use oder of operations (Pemdas)?
$\{x$.

$$
\begin{aligned}
& {\left[2(10-4)^{2}+3 \div 5\right.} \\
& {\left[2(6)^{2}+3\right] \div 5}
\end{aligned}
$$

$$
\begin{align*}
& {[2 \cdot 36+3] \div 5} \\
& {[72+3] \div 5} \\
& 75 \div 5 \tag{15}
\end{align*}
$$

Ex. Evaluate

$$
\frac{2^{3}+2(-4)(-3)}{(-3)^{2}-5}
$$

$$
\left.\begin{array}{l}
=\frac{8+2(-4)(-3)}{-9-5} \\
=\frac{10(-4)(-3)}{-14} \\
=\frac{120}{-14} /
\end{array}\right\} \begin{aligned}
& \text { Don'tadd } 8+2 . \\
& \text { Multiphy } 1+1 \\
& 8+2(-4)(-3) \\
& \text { should be } \\
& \frac{8+24}{\text { shouldbe }+9}
\end{aligned}
$$

$$
\begin{aligned}
=\frac{\not 0_{0}}{-7} & =\frac{8+24}{9-5} \\
& =\frac{32}{4}
\end{aligned}
$$

Ex. Evaluate

$$
\begin{aligned}
& \text { Ex. Evaluate } \\
& \text { [384-3(7-2)] }] \div 3 \\
& {\left[384-3 \cdot 5^{3}\right] \div 3} \\
& {[384-3 \cdot 125] \div 3} \\
& (384-375) \div 3 \\
& 9 \div 3
\end{aligned}
$$

(3)

Evaluate expressions

$$
\begin{aligned}
& x^{2}-y(x+y) \text { if } x=8 \text { and } \\
& 8^{2}-1.5(8+1.5) \quad y=1.5 \\
& 8^{2}-1.5(9.5) \\
& 64-14.25=-49.75
\end{aligned}
$$

Ex.

$$
\begin{aligned}
\frac{8 x y+z^{3}}{y^{2}+5} \text { if } x & =5 \\
y & =-2 \\
z & =-1
\end{aligned}
$$

Solution:

$$
\frac{\text { Intion: }}{\frac{8(5)(-2)+(-1)^{3}}{(-2)^{2}+5}}
$$

$$
\begin{aligned}
& \frac{8(s)(-2)+-1}{4}+5 \\
& \frac{-81}{9}=-9
\end{aligned} \begin{aligned}
& \text { P.8: } \\
& \frac{4-33,38-47}{\text { Check odd an swers }}
\end{aligned}
$$ as yougo!

