$$
\begin{aligned}
& 8-29-13 \\
& 3^{-2} \text { Trig }
\end{aligned}
$$

simplifying expressions
Only put together things that are the same.
(1)

$$
\begin{aligned}
& 3 x^{2} y+4 x y^{2}+2 x y^{2}-8 x^{2} y \\
& -5 x^{2} y+6 x y^{2}
\end{aligned}
$$

(2)

$$
\begin{aligned}
& 2 x y+6+4 y x+10+x y \\
& 7 x y+16
\end{aligned}
$$

(3)

$$
\begin{gathered}
(2 n)(4 n)+3\left(5 n^{2}\right) \\
8 n^{2}+15 n^{2} \\
23 n^{2}
\end{gathered}
$$

(4)

$$
\begin{aligned}
& \frac{\left(x^{6}\right)(2 x)^{2}}{\sqrt{\left(x^{3}\right)^{2}}} \\
& x^{6} \cdot 2 x \cdot 2 x+x^{3} \cdot x^{3} \\
& 4 x^{8}+x^{6}
\end{aligned}
$$

(5)

$$
\begin{gathered}
\left(4 x^{3}\right)^{2}\left(2 x^{4}\right)-\left(5 x^{2}\right)^{4}(2 x)^{3} \\
\begin{array}{c}
4 x_{x \times 1}^{3} \cdot 4 x_{x \times 2}^{3} \cdot 2 x_{x \times x}^{4} \quad \\
5 x^{2} \cdot 5 x^{2} \cdot 5 x^{2} \cdot 5 x^{2} \\
2 x \cdot 2 x \cdot 2 x
\end{array} \\
32 x^{10}-5000 x^{11} \\
32 x^{10}-5000 x^{11}
\end{gathered}
$$

(6) $(x+3)(x+2)$
(Mr. Hict-a + mos. Hick--) Mr. Samisen) $\underbrace{}_{\text {mrs. Snits }}$

$$
\begin{gathered}
x^{2}+2 x+3 x+6 \\
x^{2}+5 x+6
\end{gathered}
$$

(7)

$$
\begin{aligned}
& (x+2)\left(x^{2}+3 x+10\right) \\
& x^{3}+3 x^{2}+10 x+2 x^{2}+6 x+20 \\
& \left.\begin{array}{l}
x^{3}+5 x^{2}+16 x+20 \\
2 \\
2 x^{3} \\
\hline 2 x^{2} \\
\hline 2 x
\end{array}\right) 10 x \\
& \begin{array}{|l|l|}
\hline 2 x & 10 \\
\hline
\end{array} \\
& x^{3}+5 x^{2}+16 x+20
\end{aligned}
$$

(8)

$$
\begin{aligned}
& (x+1)(x+2)(x+3) \\
& x^{2}+2 x+1 x+2 \\
& \left(x^{2}+3 x+2\right)(x+3) \\
& x^{3}+3 x^{2}+3 x^{2}+9 x+2 x+6 \\
& x^{3}+6 x^{2}+11 x+6
\end{aligned}
$$

(9)

$$
\begin{array}{r}
3 x^{2} y+5 x y^{2}+6 x^{2} y \\
9 x^{2} y+5 x y^{2}
\end{array}
$$

$$
\begin{aligned}
& 8-29-13 \\
& 4^{\prime *} T=: y
\end{aligned}
$$

(24) If $x=\frac{2}{3}(x+y)$, which
of the following is an expression for $x$ in termson $y$ ?

$$
\begin{gathered}
x=\frac{2}{3}(x+y) \\
x=\frac{2}{3} x+\frac{2}{3} y \\
-\frac{2}{3} x-\frac{2}{3} x \\
3 \frac{1}{3} x=\frac{3}{1} \frac{2}{3} y \\
x=2 y
\end{gathered}
$$

Simplifying Expressions
(1)

$$
\frac{2 x y^{2}+3 x^{2} y+x y^{2}-6 x^{2} y}{3 x y^{2}-3 x^{2} y}
$$

(2)

$$
\begin{aligned}
& 2 x y+6 x+y+4 y x-x+y \\
& 6 x y+5 x+2 y
\end{aligned}
$$

(3)

$$
\begin{gathered}
(2 n)(5 n)+n \cdot 5 n^{2} \\
10 n^{2}+5 n^{3}
\end{gathered}
$$

(4)

$$
\begin{aligned}
& \left(2 n^{2}\right)^{2}(5 n)+3\left(10 n^{5}\right) \\
& 2 n^{2} \cdot 2 n^{2} \cdot 5 n+3 \cdot 10 n^{5} \\
& 2 n n \cdot 2 n n \cdot 5 n+3 \cdot 10 n n n n n \\
& 20 n^{5}+30 n^{5} \\
& 50 n^{5}
\end{aligned}
$$

(14)

$$
\begin{aligned}
& \text { (5) }\left(4 x^{3}\right)^{2}\left(2 x^{4}\right)-\left(5 x^{2}\right)^{4}(2 x)^{3} \\
& 4 x^{3} \cdot 4 x^{3} 2 x^{4}-5 x^{2} \cdot 5 x^{2} \cdot 5 x^{2} \cdot 5 x^{2} \\
& 2 x^{2} \cdot 2 x \cdot 2 x \\
& 32 x^{10}-5000 x^{11}
\end{aligned}
$$

(6)

$$
\begin{gathered}
(x+3)(x-10) \\
x^{2}-10 x+3 x-30 \\
x^{2}-7 x-30
\end{gathered}
$$

$$
\begin{aligned}
& (x+4)\left(x^{2}+2 x+10\right) \\
& x^{3}+2 x^{2}+10 x+4 x^{2}+8 x+40 \\
& x^{3}+6 x^{2}+18 x+40 \\
& \begin{array}{|l|l|l|}
\hline x^{2} & 2 x & 10 \\
\hline & x^{3} & 2 x^{2} \\
\hline & 4 x^{2} & 8 x \\
\hline
\end{array}
\end{aligned}
$$

$$
\begin{aligned}
& \text { (8) }(x+2)(x+2)(x+1) \\
& \left(x^{2}+4 x+4\right)(x+1) \\
& x^{3}+x^{2}+4 x^{2}+4 x+4 x+4 \\
& x^{3}+5 x^{2}+8 x+4
\end{aligned}
$$

