M-A2 Algebra 2 Week 6 10/16

1.) $2|3+8v|+6 = 4v-10$

$-6 \quad -6$

$\frac{2|3+8v|}{2} = \frac{4v-16}{2}$

$|3+8v| = 2v-8$

presence of a variable means we have to check.

must be positive.

isolate the absolute value.

$2x+6 = -6$

-6

$\frac{2x}{2} = \frac{}{2}$

$3+8v = 2v-8$

$-2v \quad -2v$

$3+6v = -8$

$-3 \quad -3$

$\frac{6v}{6} = \frac{-11}{6}$

$v = -\frac{11}{6}$

check

$2v-8$

$2(-\frac{11}{6})-8$

$-\frac{11}{3}-8$

$\ominus$

$3+8v = -(2v-8)$ (opposite)

$3+8v = -2v+8$

$+2v \quad +2v$

$3+10v = 8$

$-3 \quad -3$

$\frac{10v}{10} = \frac{5}{10}$

$v = \frac{1}{2}$

check

$2v-8$

$2(\frac{1}{2})-8$

$1-8$

-7

$\ominus$

No solution

2.) $|9x-9|+7=70$ isolate first

$-7 \quad -7$

$|9x-9|=63$

Checklist

1.) Positive → keep going

2.) No variable → No check!

$9x-9=63$ $\quad +9 \quad +9$

$\frac{9x}{9}=\frac{72}{9}$

$x=8$

$9x-9=-63$ $\quad +9 \quad +9$

$\frac{9x}{9}=\frac{-54}{9}$

$x=-6$

3.) $6|6-10m|+8=6m-88$

$-8 \quad -8$

$\frac{6|6-10m|}{6}=\frac{6m-96}{6}$

$|6-10m|=m-16$ → check

$6-10m=m-16$

$-m \quad -m$

$6-11m=-16$

$-6 \quad -6$

$\frac{-11m}{-11}=\frac{-22}{-11}$

$m=2$

Check

$m-16$

$2-16$

-14

⊖

No solution

$6-10m=-m+16$

$+m \quad +m$

$6-9m=16$

$-6 \quad -6$

$\frac{-9m}{-9}=\frac{10}{-9}$

$m=-\frac{10}{9}$

Check

$m-16$

$-\frac{10}{9}-16$

⊖

$-4 + |-7p-3| \leq 62$ Isolate Absolute Value

$+4 \qquad +4$

$|-7p-3| \leq 66$

flip opposite

$-7p-3 \leq 66$

$+3 \quad +3$

$-7p \leq 69$

$\frac{-7p}{-7} \leq \frac{69}{-7}$

$p \geq -\frac{69}{7}$

$-7p-3 \geq -66$

$+3 \quad +3$

$-7p \geq -63$

$\frac{-7p}{-7} \leq \frac{-63}{-7}$

$p \leq 9$

$|x+8| \geq -3$ Always! all solutions

$|x+8| \leq -3$ Never! No solution

Candy	
Twix	12
Snickers	16
Kit Kat	20
Reese's	24
100 Grand	8
Total	80

$P(\text{Snickers}) = \frac{16 \div 16}{80 \div 16} = \boxed{\frac{1}{5}}$

$P(\text{Reese's}) = \frac{24 \div 8}{80 \div 8} = \boxed{\frac{3}{10}}$

$\frac{\text{Desired \#}}{\text{total \#}} \geq \text{Probability}$

$P(\text{twix or 100 Grand}) = \frac{12 + 8}{80} = \frac{20 \div 20}{80 \div 20} = \boxed{\frac{1}{4}}$

$P(\text{Twizzlers}) = \boxed{0}$

Candy	
Twix	12
Snickers	16
Kit Kat	20
Reese's	24
100 Grand	8
Total	80

Law of Independent Assortment

P(Snickers and then kit kat with replacement)

$P(\text{Snickers}) = \frac{16}{80} = \frac{1}{5}$

$P(\text{kit kat}) = \frac{20}{80} = \frac{1}{4}$

$\frac{1}{5} \rightarrow * \frac{1}{4} = \boxed{\frac{1}{20}}$

P(Reese's and then 100 Grand without replacement)

$P(\text{Reese's}) = \frac{24}{80} = \frac{3}{10}$

$P(\text{100 Grand}) = \frac{8}{79}$

$\frac{3}{10 \div 2} \rightarrow * \frac{8 \div 2}{79}$ $\quad \frac{3}{5} * \frac{4}{79} = \boxed{\frac{12}{395}}$

Candy	
Twix	12
Snickers	16
Kit Kat	20
Reese's	24
100 Grand	8
Total	80

P(Twix and then kit kat with replacement)

$P(\text{Twix}) = \frac{12 \div 4}{80 \div 4} = \frac{3}{20}$

$P(\text{kit kat}) = \frac{20 \div 20}{80 \div 20} \quad \frac{1}{4}$

$\frac{3}{20} * \frac{1}{4} = \boxed{\frac{3}{80}}$

P(Reese's and the Reese's without replacement)

$P(\text{Reese's}) = \frac{24 \div 8}{80 \div 8} \quad \frac{3}{10}$

$P(2\text{nd Reese's}) = \frac{23}{79}$

$\frac{3}{10} * \frac{23}{79} = \boxed{\frac{69}{790}}$