MATH 0471 – ABSOLUTE VALUE

Solve each of the following. Graph your solution set and write in set builder notation and interval notation (for the inequalities).

1. $|x-4|=\frac{5}{3}$

2. $1=|3-x|$

3. $|a+3|=\frac{7}{5}$

4. $\left|\frac{3}{5}a+\frac{1}{2}\right|=1$

5. $|8-7y|+9=1$

6. $1=-3+\left|2-\frac{1}{4}y\right|$

7. $|2x+5|-2<9$

8. $|2x-5|\geq 3$

9. $|2a-6|-1\geq 2$

10. $8-|3x+5|<5$

11. $\left|3-\frac{1}{3}x\right|>9$

12. $|2x-5|+4<2$

13. $|3x+2|>2$

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1. $\{\frac{7}{3}, \frac{17}{3}\}$	2. {-4 , -2}	3. $\{-\frac{8}{5}, -\frac{22}{5}\}$
4. $\{-\frac{15}{6}, \frac{5}{6}\}$	5. No soln.	6. {-8 , 24}
7. (-8 , 3) ; {x | -8 < x < 3}	8. (-∞,1] U [4,∞) ; {x | x ≤ 1 or x ≥ 4}	9. (-∞,2] U [4,∞) ; {a | a ≤ 2 or a ≥ 4}
10. $(-\infty,-\frac{8}{3}) \cup (-\frac{2}{3}, \infty)$ $\{x \mid x < -\frac{8}{3}$ or $x > -\frac{2}{3}\}$	11. (-∞,-18) U (36,∞) {x | x < -18 or x > 36}	12. No soln.
13. $(-\infty,-\frac{4}{3}) \cup (0,\infty)$ $\{x \mid x < -\frac{4}{3}$ or $x > 0\}$		