

Mystery Numbers



- ① Gabe and Aurelia play *Number Squeeze*.
Gabe represents his mystery number with the variable f .

- a. Represent each of the two *Number Squeeze* clues with an inequality.
Describe the solution sets to the inequalities. **Sample answers given.**

| | | |
|--------------|---|---------------------------------|
| Clue | Subtract 5 from f and the answer is greater than 7. | The number f is less than 13. |
| Inequality | $f - 5 > 7; f > 12$ | $f < 13$ |
| Solution Set | {All numbers greater than 12} | {All numbers less than 13} |

- b. Graph the solution set that makes both inequalities true.



- c. List three numbers that could be the mystery number.
Check that they are in the solution sets for both inequalities.

Possible numbers f could be: **Sample answer: $12\frac{1}{2}$, 12.3, 12.6**

- ② a. Write two inequalities that could be clues for the following graph:
Sample answers given.



Inequality A: $d < 7$

Inequality B: $d > 3$

- b. Write a different set of inequalities that could also represent the graph in Problem 2a.

Inequality C: $d + 4 < 11$

Inequality D: $d - 0.5 > 2.5$

Practice Evaluate.

③ $|-4| = 4$

④ $|-0.5| = 0.5$

⑤ $|z| = 6; z = 6 \text{ or } -6$