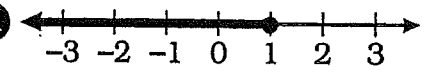
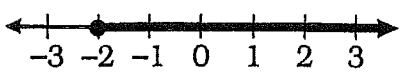
Where Do Airline Pilots Keep Their Uniforms?

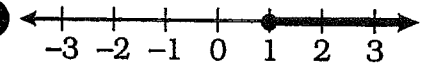
For each exercise, write the letter of the answer in the box containing the exercise number.

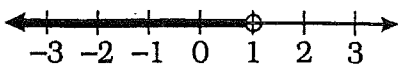
In Exercises 1-6, match the inequality with its graph.

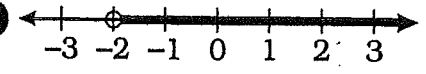
1. $x < 1$ H
2. $x \leq 1$ A
3. $x > -2$ E
4. $x \geq -2$ R
5. $-2 > x$ T
6. $1 \leq x$ O

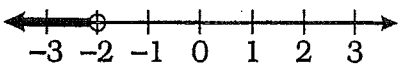
A 

R 

O 

H 

E 

T 

In Exercises 7-18, solve the inequality. Then graph the solution.

7. $4n + 1 < 9$ (I) $4n < 8$, $n < 2$

8. $7a - 2 \geq 5$ (E) $7a \geq 7$, $a \geq 1$

9. $3y + 10 \leq 4$ (A) $3y \leq -6$, $y \leq -2$

10. $8k - 3 > -27$ (C) $8K > -24$, $K > -3$

11. $\frac{x}{2} + 9 < 11$ (N) $\frac{x}{2} < 2$, $x < 4$

12. $\frac{d}{6} - 4 \geq -5$ (S) $\frac{d}{6} \geq -1$, $d \geq -6$

13. $\frac{u}{15} - 2 \leq -2$ (H) $\frac{u}{15} \leq 0$, $u \leq 0$

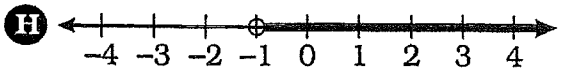
14. $5p - 14 < 26$ (N) $5p < 40$, $p < 8$

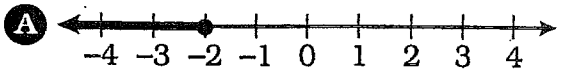
15. $18 \leq 7b + 4$ (T) $14 \leq 7b$, $2 \leq b$

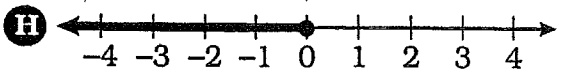
16. $-9 < 12y + 3$ (H) $-12 < 12y$, $-1 < y$

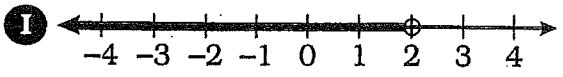
17. $-14 \geq \frac{x}{3} - 16$ (L) $2 \geq \frac{x}{3}$, $6 \geq x$

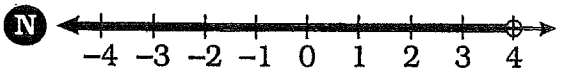
18. $5 < \frac{m}{8} + 5$ (G) $0 < \frac{m}{8}$, $0 < m$

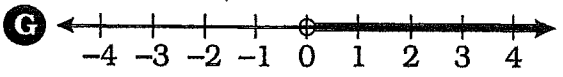
H 

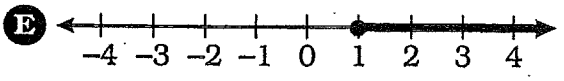
A 

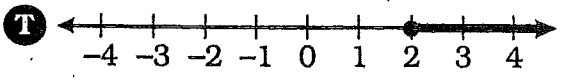
H 

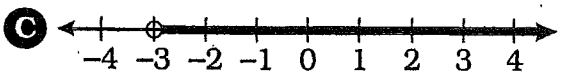
I 

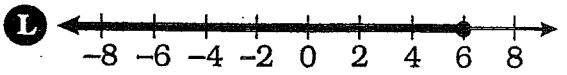
N 

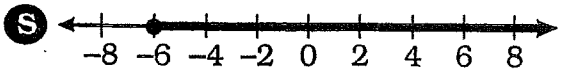
G 

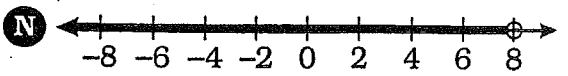
E 

T 

C 

L 

S 

N 

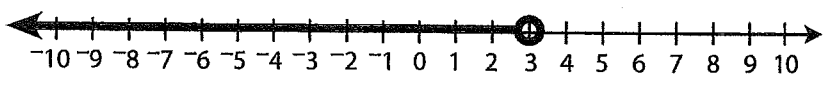
7	11	5	13	3	10	17	6	15	1	8	12	16	2	14	18	9	4
I	N	T	H	E	C	L	O	T	H	E	S	H	A	N	G	A	R

Name Key Date

Variables and Equations

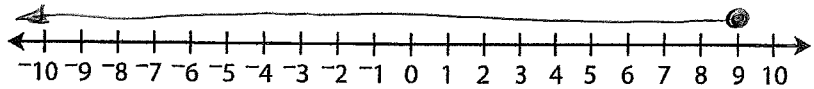
Solving Inequalities with Variables on Both Sides

$$-10x + > 4x - 42$$
$$-10x + 10x > 4x + 10x - 42$$
$$0 > 14x - 42$$
$$42 > 14x - 42 + 42$$
$$42 > 14x$$
$$x < 3$$

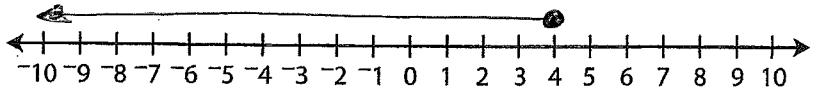


Solve each inequality and graph its solution set.

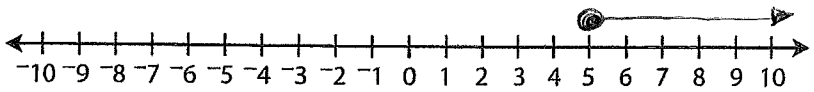
1. $7m + 9 \leq 6(m + 3)$
   $7m + 9 \leq 6m + 18$
   $m \leq 9$



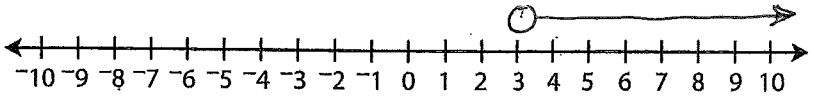
2. $3(2x + 4) \geq 7x + 8$
   $6x + 12 \geq 7x + 8$
   $4 \geq x$



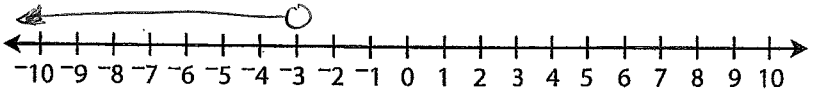
3. $2(k + 4) \leq 3(2k - 4)$
   $2k + 8 \leq 6k - 12$
   $-4k \leq -20$
   $k \geq 5$



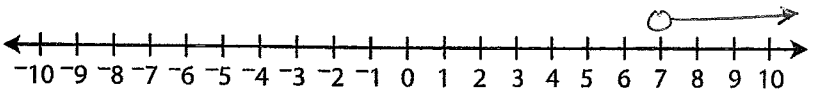
4. $5x + (-3) > 2(3 + x)$
   $5x - 3 > 6 + 2x$
   $3x > 9$
   $x > 3$



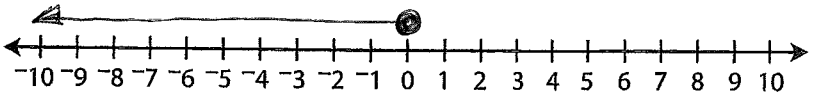
5. $5c + 2 < 2c + (-7)$
   $3c < -9$
   $c < -3$



6. $5x - 20 > 2x + 1$
   $3x > 21$
   $x > 7$



7. $3(s - 4) \geq 4s - 12$
   $3s - 12 \geq 4s - 12$
   $0 \geq s$



8. $-9 - e > 3e + 11$
   $-20 > 4e$
   $-5 > e$