

A) Write and solve the following situation involving inequalities.

0) Your composite score on the ACT is the average of your scores on the four subject areas: Math, Science, Reading, and English. To get into the college of your dreams, you have to get a composite score of at least a 26. If you scored a 28 in Math, 24 in Science, and 29 in Reading, what scores could you get in English to qualify for your dream college?

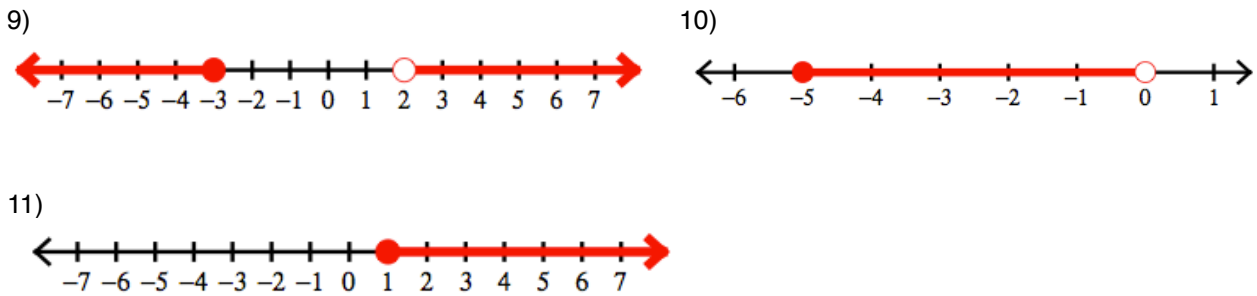
B) Translate the following inequalities to mathematical symbols.

- 1) There have been protests in Egypt for more than 7 days.
- 2) We are expecting to get anywhere from 20 to 24 inches of snow on Wednesday.
- 3) Luol Deng is a very streaky player - he either scores under 10 points, or he scores over 20.

C) Solve the following inequalities and graph your answers.

- 4) $-2 > 5 + x$
- 5) $\frac{v}{2} \leq 0$ and $v - 2 > -10$
- 6) $x + 1 \geq 3$ or $6 + x < 4$
- 7) $-20 \leq -6m - 2 \leq 58$
- 8) $6 - 6k \leq 2k + 6$ or $-k - 8 \geq k + 6$

D) Write inequalities for the following graphs



Answers

0) See Below:

$$\frac{28 + 24 + 29 + x}{4} \geq 26$$

$$x \geq 23$$

1) $p > 7$

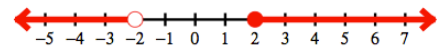
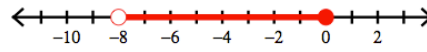
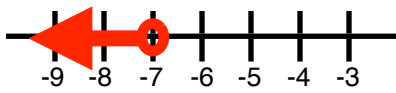
2) $20 \leq x \leq 24$

3) $x < 10$ or $x > 20$

4) $-7 > x$

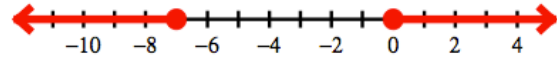
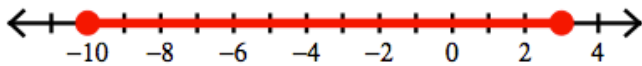
5) $-8 < v \leq 0$

6) $x \geq 2$ or $x < -2$



7) $3 \geq m \geq -10$

8) $0 \leq k$ or $-7 \geq k$



9) $x \leq -3$ or $x > 2$

10) $-5 \leq x < 0$

11) $x \geq 1$