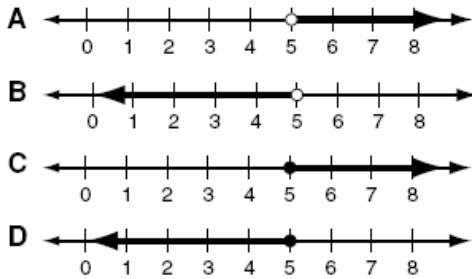
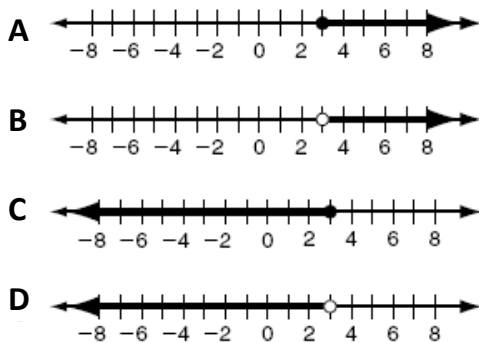


# Graphing Inequalities

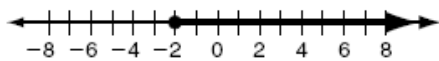
1. Which graph represents  $5 \leq b$ ?



2. Which is the graph of  $m < 3$ ?



3. Which inequality is shown by the graph below?



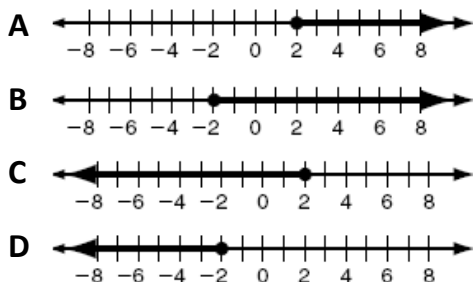
- A  $x > -2$                       C  $x < -2$   
B  $x \geq -2$                       D  $x \leq -2$

4. Which inequality is shown by the graph below?

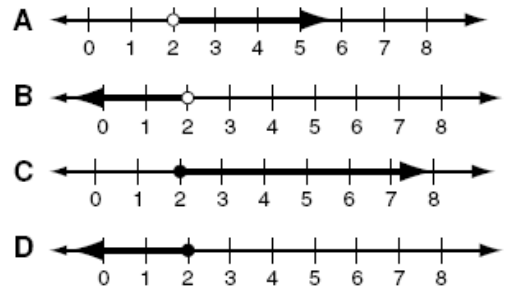


- A  $x > 4$                       C  $x < 4$   
B  $x \geq 4$                       D  $x \leq 4$

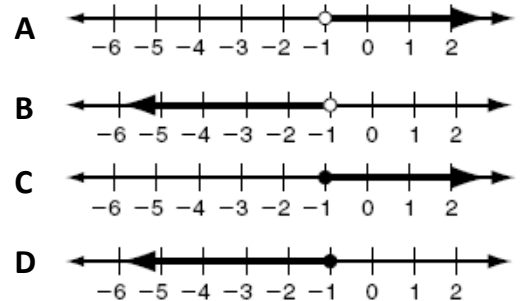
5. Which is the graph of  $-5h + 3 \leq -7$ ?



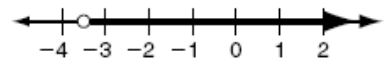
6. Which graph represents  $b < 2$ ?



7. Which graph represents  $-1 > k$ ?

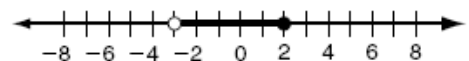


8. Which inequality is shown by the graph below?



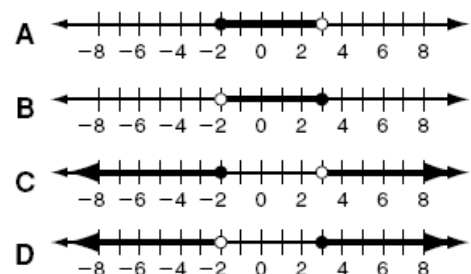
- A  $x > -4.5$                       C  $x > -3.5$   
B  $x \geq -4.5$                       D  $x \geq -3.5$

9. Which inequality is shown below?



- A  $-3 < x \leq 2$   
B  $-3 \leq x < 2$   
C  $x < -3$  OR  $x \geq 2$   
D  $x \leq -3$  OR  $x > 2$

10. Which is the graph of  $6x < -12$  OR  $3x \geq 9$ ?



# Inequalities

11. There must be at least 20 club members present in order to hold a meeting. Which inequality describes the above situation?
- A.  $m > 20$                       C.  $m \leq 20$   
B.  $m \geq 20$                       D.  $m < 20$
12. Which inequality represents the situation "the temperature should be at most 40 degrees"?
- A.  $t > 40$                       C.  $t < 40$   
B.  $t \geq 40$                       D.  $t \leq 40$
13. Cookies are sold in the lunchroom for \$1.50. Ana wants to buy cookies for a group of her friends. If she has \$20, which inequality can be solved to show the number of cookies  $c$  she can buy?
- A.  $1.50c < 20$                       C.  $1.50c > 20$   
B.  $1.50c \leq 20$                       D.  $1.50 \geq 20$
14. During a sale, customers receive an extra discount if they spend \$200 or more. So far, Erin's purchases total \$135. Which inequality can be solved to show how many more dollars  $d$  she must spend to receive the extra discount?
- A.  $135 + d > 200$                       C.  $135d \geq 200$   
B.  $135 + d < 200$                       D.  $135 + d \geq 200$
15. Ryan has a \$16 gift card for a health store where he buys smoothies that cost \$2. If  $x$  represents the number of smoothies Ryan could buy, which inequality models the situation?
- A.  $2 + x \leq 16$                       C.  $2x \geq 16$   
B.  $2x \leq 16$                       D.  $16 - x < 2$
16. Due to a medical condition, a hiker can hike only in areas with an elevation no more than 5000 feet above sea level. Which inequality describes the above situation?
- A.  $e < 5,000$                       C.  $e \geq 5,000$   
B.  $e > 5,000$                       D.  $e \leq 5,000$
17. You must be at least 46 inches tall to ride the Indiana Jones Adventure ride at Disney's California Adventure Park. Which inequality describes the above situation?
- A.  $h < 46$                       C.  $h \geq 46$   
B.  $h \leq 46$                       D.  $h > 46$
18. Mike is on a cross-country trip and wants to drive at least 450 miles per day. So far today, he has driven 175 miles. Which inequality can be solved to show the number of miles  $m$  that Mike must drive to meet his daily goal?
- A.  $175 + m < 450$                       C.  $175 + m > 450$   
B.  $175 + m \leq 450$                       D.  $175 + m \geq 450$
19. Shares in stock of a new company are selling for \$3.75 per share. If an investor has \$800, which inequality can be solved to show the number of shares  $s$  they can buy?
- A.  $3.75s < 800$                       C.  $800 \leq 3.75s$   
B.  $3.75s \leq 800$                       D.  $800 < 3.75s$
20. A spool of ribbon is 80 inches long. Riley needs to cut strips of ribbon that are 14 inches long. If  $y$  represents the numbers of strips cut, which inequality models the situation?
- A.  $14y \leq 80$                       C.  $14 + y \geq 80$   
B.  $y/14 \leq 80$                       D.  $80y \leq 80$

21. The maximum capacity of a theater is 471 people. So far, 254 people are seated in the theater. Which inequality can be solved to show the number of people  $p$  that can still enter the theater?
- A.  $254 + p < 471$       C.  $254 + p \leq 471$   
 B.  $254 + p \geq 471$       D.  $254 + p < 471$
22. Mrs. Nelson is buying folding chairs that are on sale for \$10. If she has \$50, which inequality can be solved to show the number of chairs  $c$  she can buy?
- A.  $10 + c \leq 50$       C.  $10c \leq 50$   
 B.  $10c \geq 50$       D.  $10c < 50$
23. The sum of a number and twenty is less than four times the number decreased by one. Which inequality describes this statement?
- A.  $x + 20 < 4(x - 1)$   
 B.  $x + 20 < 4x - 1$   
 C.  $x + 20 > 4x - 1$   
 D.  $x + 20 \leq 4x - 1$
24. Three-fourths of a number is no more than five less than the number. Which inequality describes this statement?
- A.  $\frac{3}{4}x < x - 5$   
 B.  $\frac{3}{4}x > 5 - x$   
 C.  $\frac{3}{4}x \leq 5 - x$   
 D.  $\frac{3}{4}x \leq x - 5$
25. The school band will sell pizzas to raise money for new uniforms. The supplier charges \$100 plus \$4 per pizza. If the band members sell the pizzas for \$7 each, which inequality shows how many pizzas they will have to sell to make a profit?
- A.  $100 + 4p > 7p$   
 B.  $100 + 4p < 7$   
 C.  $100 + 4p \leq 7p$   
 D.  $100 + 4p < 7p$
26. One-half of a number, increased by 9, is at most 33. Which inequality describes this statement?
- A.  $\frac{1}{2}x + 9 > 33$       C.  $\frac{1}{2}x + 9 \leq 33$   
 B.  $\frac{1}{2}x + 9 < 33$       D.  $\frac{1}{2}x + 9 \geq 33$
27. Which inequality represents the situation "no more than 160 students are in the freshmen class"?
- A.  $s > 160$       C.  $s \geq 160$   
 B.  $s \leq 160$       D.  $s < 160$
28. Six is less than or equal to the sum of 4 and  $-2x$ . Which inequality describes this statement?
- A.  $6 < 4(-2x)$       C.  $4 - 6 = -2x$   
 B.  $6 \leq 4 - 2x$       D.  $6 \leq 4 + 2x$
29. Phillip has \$100 in the bank and deposits \$18 per month. Gil has \$145 in the bank and deposits \$15 per month. Which inequality shows when Gil will have a larger bank balance than Phillip?
- A.  $100 + 18m \geq 145 + 15m$   
 B.  $100 + 18m < 145 + 15m$   
 C.  $100 + 18m \leq 145 + 15m$   
 D.  $100 + 18m > 145 + 15m$
30. A sales representative is given a choice of two paycheck plans. One choice includes a monthly base pay of \$300 plus 10% commission on his sales. The second choice is a monthly salary of \$1200. Which inequality shows the amount of sales the representative would need to make more money with the first plan?
- A.  $300 + 10x > 1200$   
 B.  $300 + .10x \geq 1200$   
 C.  $300 + .10x < 1200$   
 D.  $300 + .10x > 1200$