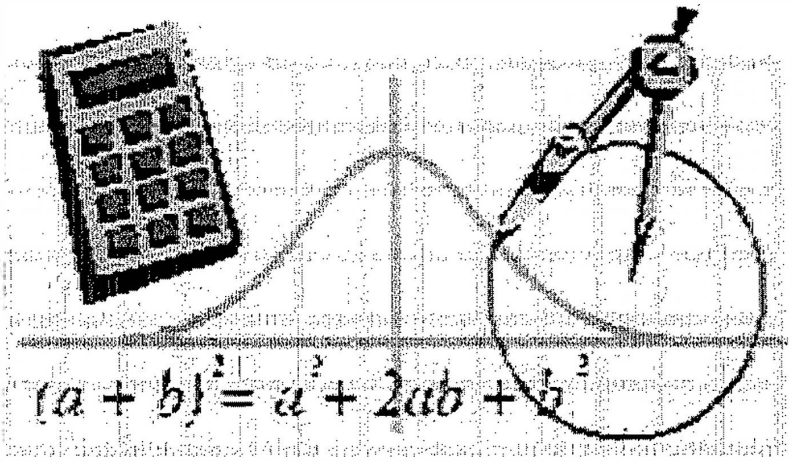
Downingtown High School

East/West

Keystone Algebra 1 Review

Module 1

Linear Inequalities



1. Solve the following inequality.

$$24 < -2(x-3) < 36$$

A. $-16 < x < -15$

B. $-21 < x < -9$

C. $-21 < x < -15$

D. $-15 < x < -9$

2. Solve the following inequality.

$$|3x+4| < 8$$

A. $x < \frac{4}{3}$

B. $-\frac{4}{3} < x < 4$

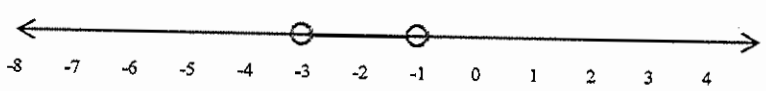
C. $-4 < x < \frac{4}{3}$

D. $-8 < x < \frac{4}{3}$

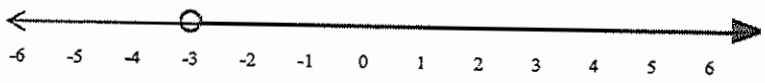
3. Which of the following graphs shows the solution set for the inequality below?

$$|2x+4| > 2$$

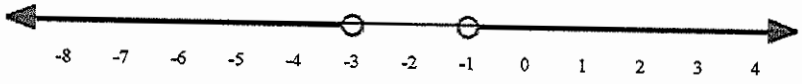
A.



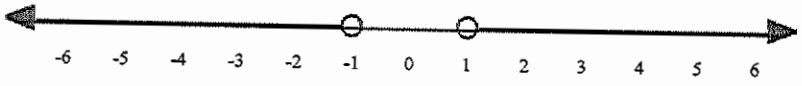
B.



C.



D.



4. Tom can spend up to $40 for gasoline and a carwash at a service station. The carwash will cost $6.00, and a gasoline costs $4.50 per gallon. The inequality below can be solved for g, the number of gallons of gasoline Tom can buy.

$$4.5g + 6 \leq 40$$

Which of the following is a true statement?

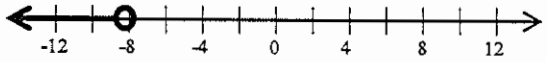
A. Tom can buy over 10 gallons of gasoline.

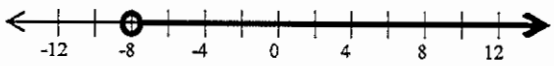
B. Tom can buy at most 7 gallons of gasoline

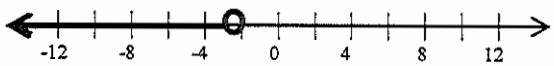
C. Tom can buy 6 gallons, but not 7 gallons.

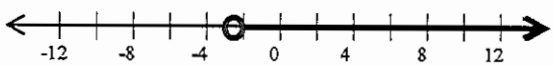
D. Tom can buy 7 gallons of gasoline, but not 8 gallons.

5. Which of the following graphs shows the solution to the inequality $-\frac{1}{2}x - 4 < 0$?

A.


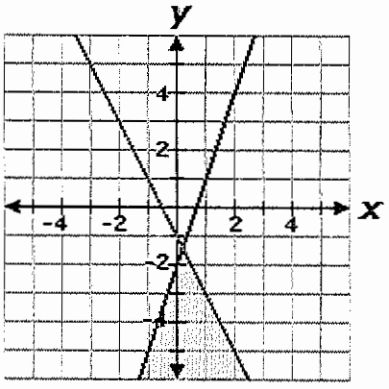
B.


C.


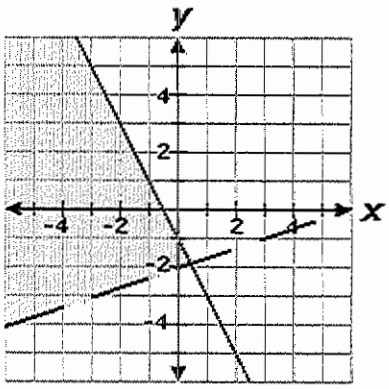
D.


6. Which graph represents the following system of inequalities?

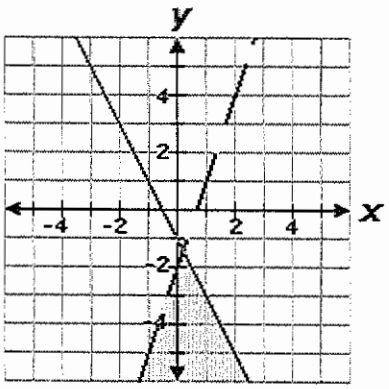
$$\begin{cases} y > \frac{1}{3}x - 2 \\ y \leq -2x - 1 \end{cases}$$



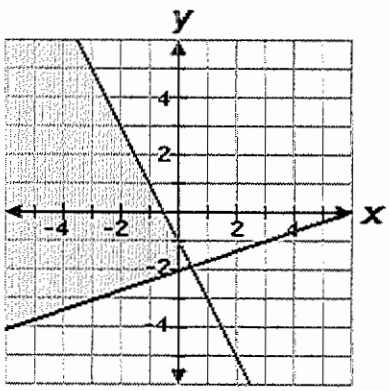
W.



X.



Y.



Z.

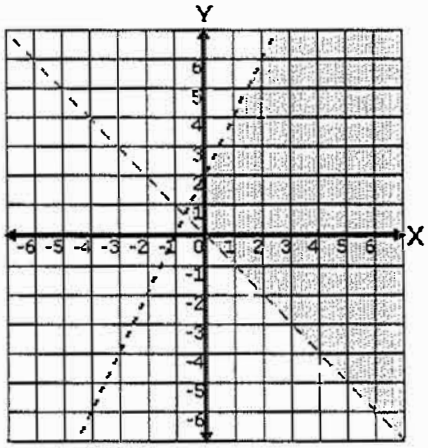
A. Y

B. X

C. W

D. Z

7. Choose the system of inequalities that best matches the graph below.



A. $y < 2x + 2$
$y < x$

B. $y \leq x - 2$
$y > -x$

C. $y < 2x$
$y \leq x$

D. $y < 2x + 2$
$y > -x$

8. At an ice-cream parlor, ice-cream cones cost x dollars each and sundaes cost y dollars each. The total cost of 4 cones and 3 sundaes is more than \$20. The total cost of 5 cones and 1 sundae is less than \$16. This situation can be represented by which of the following system of inequalities:

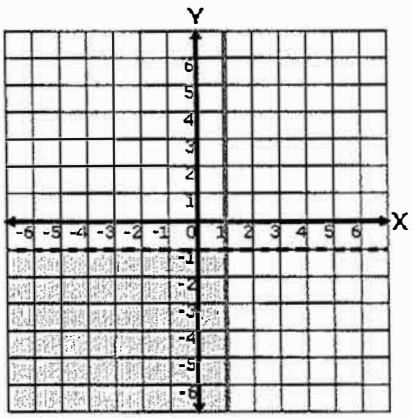
A. $4x + 3y > 20$
$5x + y < 16$

B. $4x + 3y < 20$
$5x + y > 16$

C. $4x + 3y \geq 20$
$5x + y \leq 16$

D. $4x + 3y \leq 20$
$5x + y \leq 16$

9. Choose the system of inequalities that best matches the graph below.



A. $y < -1$
$x \leq 1$

B. $y \leq -1$
$x < 1$

C. $y < 1$
$x \leq -1$

D. $y > -1$
$x \geq 1$