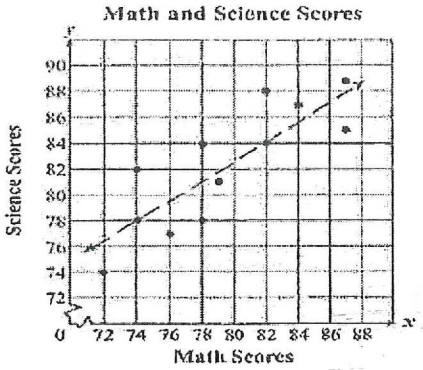
KEYSTONE EXAM REVIEW PACKET 2

Name KEY Period _____

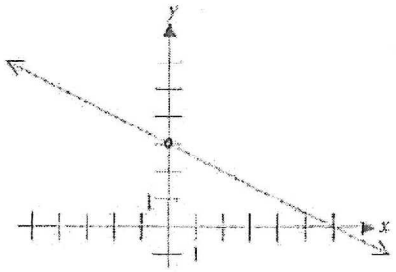
C 1. The scatter plot below compares the math and science scores of twelve students in one classroom.



Based on the trend shown in the line of best fit, which is the closest to the expected science grade of a student that scores an 86 in math?

A. 82 B. 85 C. 87 D. 89

D 2. Which of the following equations bests describes the line shown in the graph below?



$m = \frac{-3}{6} = -\frac{1}{2}$

$b = 3$

A. $y = -2x + 6$ B. $y = \frac{1}{2}x + 6$ C. $y = -2x + 3$ D. $y = -\frac{1}{2}x + 3$

B 3. What is the *y*-intercept of the line with the equation $2x - 3y = 18$

A. -9 B. -6 C. -3 D. 6

$\frac{-3y}{-3} = \frac{2x-18}{3}$

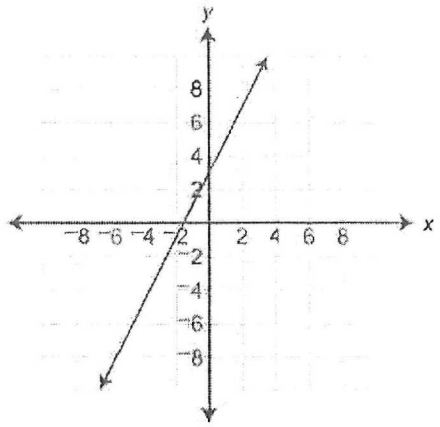
$y = \frac{2}{3}x - 6$

B 4. Which expression is equivalent to $\frac{4}{3+\sqrt{2}}$?

$\frac{4}{3+\sqrt{2}} \cdot \frac{3-\sqrt{2}}{3-\sqrt{2}} = \frac{12-4\sqrt{2}}{9-2} = \frac{12-4\sqrt{2}}{7}$

A. $\frac{12+4\sqrt{2}}{7}$ B. $\frac{12-4\sqrt{2}}{7}$ C. $\frac{12+4\sqrt{2}}{11}$ D. $\frac{12-4\sqrt{2}}{11}$

D 5. A graph of a linear equation is shown.



$b = 3$

$m = 2$

Which equation described the graph?

~~A~~. $y = 0.5x - 1.5$ B. $y = 0.5x + 3$ ~~C~~. $y = 2x - 1.5$ (D.) $y = 2x + 3$

B 6. A bag contains only red marbles, blue marbles, and yellow marbles. The probability of randomly selecting a red marble from this bag is $\frac{1}{4}$, and the probability of randomly selecting a blue marble is $\frac{1}{6}$. Which of the following could be the total number of marbles in the bag?

A. 10 (B.) 12 C. 18 D. 20

C 7. An equation of the line that has a slope of 3 and a y-intercept of -2 is $y = 3x - 2$

A. $x = 3y - 2$ B. $y = -\frac{2}{3}x$ (C.) $y = 3x - 2$ D. $y = -2x + 3$

B 8. If $a > 0$, then $\sqrt{9a^2 + 16a^2}$ equals $\sqrt{25a^2} = 5a$

A. $\sqrt{7a}$ (B.) $5a$ C. $5\sqrt{a}$ D. $7a$

D 9. If the mass of a proton is $1.67\ X\ 10^{-24}$ gram, what is the mass of 1,000 protons?

A. $1.67\ X\ 10^{-27}$g B. $1.67\ X\ 10^{-22}$g C. $1.67\ X\ 10^{-23}$g (D.) $1.67\ X\ 10^{-21}$g

C 10. The expression $\sqrt[4]{16a^6b^4}$ is equivalent to $2a^{\frac{3}{2}}b$

A. $2a^2b$ B. $4a^2b$ (C.) $2a^{\frac{3}{2}}b$ D. $4a^{\frac{3}{2}}b$

A 11. Write an absolute value inequality for the following graph:

"AND" graph

(A.) $|x-3| \leq 5$ $x-3 \leq 5$ & $x-3 \geq -5$ ~~B.~~ $|x-3| \geq 5$

$x \leq 8$ and $x \geq -2$

C. $|x-5| \leq 3$ D. $|x-3| < 5$

D 12. The solution set of an inequality is graphed on the number line below.

$x \geq -3$

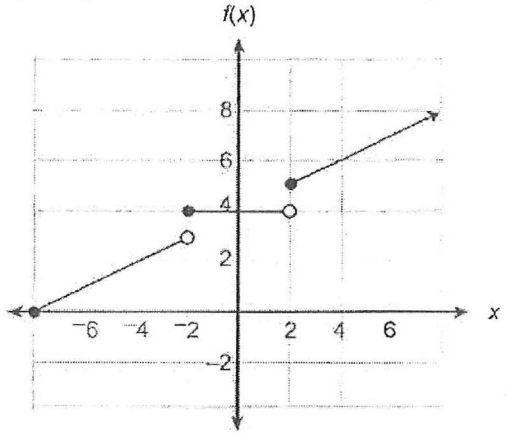
The graph shows the solution set of which inequality?

~~A.~~ $2x+5 < -1$ B. $2x+5 \leq -1$

~~C~~ $2x+5 > -1$ (D.) $2x+5 \geq -1$ $-5 \quad -5$ $\frac{2x}{2} \geq \frac{-6}{2}$

$x \geq -3$

Use the graph of the function shown below for questions 10 and 11.



C 13. Which is the domain of the function?

A. $\{0 \leq x < 3 \text{ or } x = 4 \text{ or } x \geq 5\}$ B. $\{-8 \leq x \leq 8\}$

(C.) $\{x \geq -8\}$ D. ALL Reals

B 14. Which value is NOT in the range of the function?

A. 0 (B.) 3

C. 4 D. 5

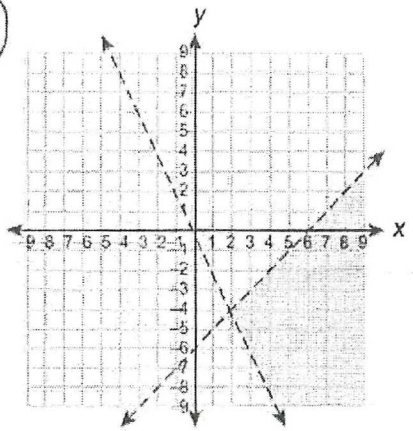
A 15. A system of inequalities is shown below.

$y < x - 6$

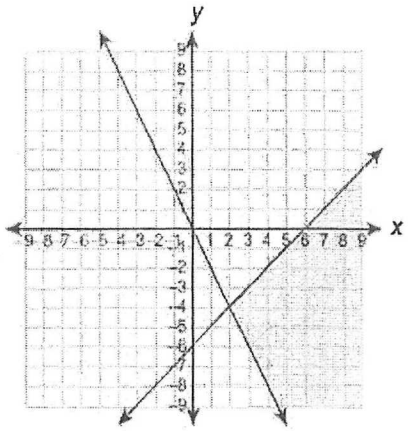
$y > -2x$

Which graph shows the solution set of the system on inequalities?

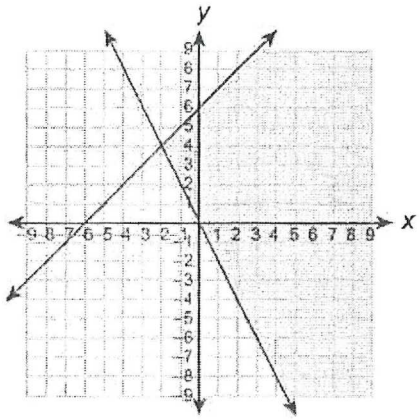
A.



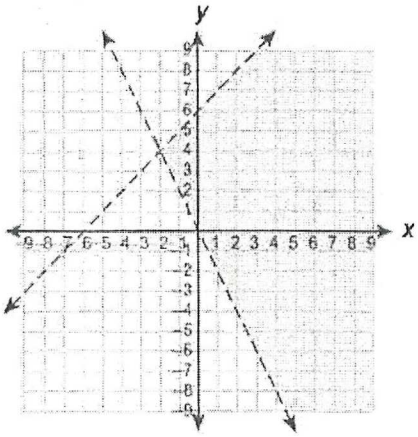
B.



C.



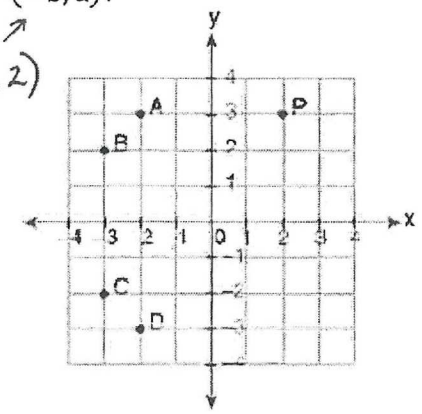
D.



B 16. In the accompanying graph, if point P has coordinates (a, b), which point has coordinates (−b, a)?

(2, 3)

(-3, 2)



A. A

B. B

C. C

D. D