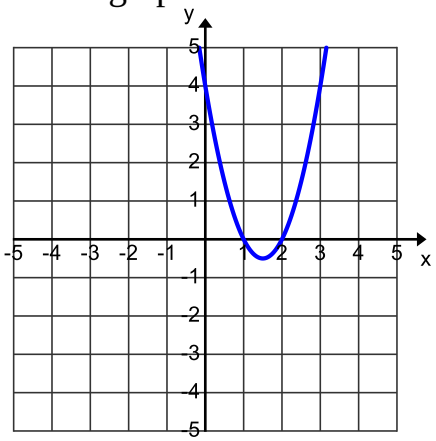
2014 SOL Quiz A Questions 1-20

____1. Look at the graphed function below.



Based on the zeros, which best represents the graphed function?

A. $2(x - 3)(x - 2)$

B. $2(x - 1)(x + 4)$

C. $2(x - 1)(2x - 6)$

D. $2(x - 1)(x - 2)$

____2. Cecil would like to buy some toys to donate to charity. He plans to buy 4 dolls at d dollars each, 2 toy cars at c dollars each, and 8 train sets at t dollars each. Which expression represents the total cost, in dollars, of these items that Cecil wants to buy?

A. $4d - 2c - 8t$

B. $4d + 2c - 8t$

C. $4d + 2c + t$

D. $4d + 2c + 8t$

____3. Which expression is equivalent to $\frac{16c^5d^6}{8c^3d^4}$?

A. $2c^2d^2$

B. $2c^8d^{10}$

C. $2c^{15}d^{24}$

D. $8c^8d^{10}$

____4. Identify each expression that is a factor of this polynomial: $2x^2 + 4x - 6$

I. $2x - 3$

II. 2

III. $x + 3$

IV. $x - 1$

A. I, III, and IV

B. I and IV

C. II, III, and IV

D. I, II, III, and IV

____5. Gimme: Pick A

A. Thank you, Mr. Hickam

____6. What is the value of $\sqrt{72}$ in simplest radical form?

A. $4\sqrt{2}$ B. $3\sqrt{2}$ C. $6\sqrt{2}$ D. $8\sqrt{2}$

____7. Which of the following binomials is a factor of $x^2 + 2x - 24$?

A. $x - 2$ B. $x - 3$ C. $x - 4$ D. $x - 5$

____8. What is the value of the expression below when $x = \frac{2}{5}$

$$x^2 - 5x + 2$$

A. $\frac{2}{5}$ B. $\frac{4}{5}$ C. $\frac{2}{25}$ D. $\frac{4}{25}$

____9. Which expression is equivalent to $(2x^{-3})^2 (5x^{-3})$?

A. $\frac{20}{x^9}$ B. $\frac{20}{x^{12}}$ C. $20x^{12}$ D. $20x^3$

____10. Which polynomial is equivalent to $(6n^2 - 7n - 3) \div (3n + 1)$?

A. 2n + 3 B. 2n – 3 C. 6n + 1 D. 6n – 1

____11. What is the value of this expression when a = 9 and b = -5 ?

$$-2\sqrt{a} + b^2$$

A. -19 B. -31 C. 19 D. 31

____12. When n > 0, which expression is equivalent to $\sqrt{22n^7}$ in simplest form?

A. $2n^3\sqrt{11n}$ B. $n^3\sqrt{22n}$ C. $22n\sqrt{n^5}$ D. $n^3\sqrt{11n}$

____13. Look at the system of equations.

$$\begin{cases} y = -x + 4 \\ 3x + 2y = 11 \end{cases}$$

What is the value of *x* for the solution to this system of equations?

A. 3 B. -4 C. 8 D. -10

____14. What is the slope of the line represented by x + y = 4 ?

A. 1 B. -1 C. 4 D. -4

____15. Solve for the variable n: 4(n – 2) = 2(n + 5)

A. n = -4 B. n = 1 C. n = 9 D. n = -18

____16. What is the slope of the line represented by $\frac{1}{4}x + 2y = 10$

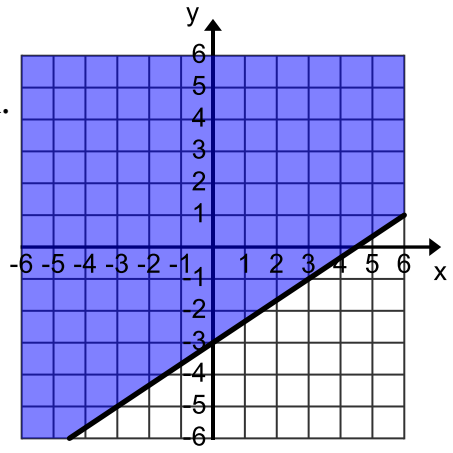
A. $-\frac{1}{8}$ B. $-\frac{1}{24}$ C. $\frac{1}{8}$ D. $\frac{1}{24}$

____17. Solve for x: -3x + 6 < x – 6

A. x < 6 B. x < 3 C. x > 6 D. x > 3

____18. Which graph best models $y \geq \frac{2}{3}x - 3$?

A.



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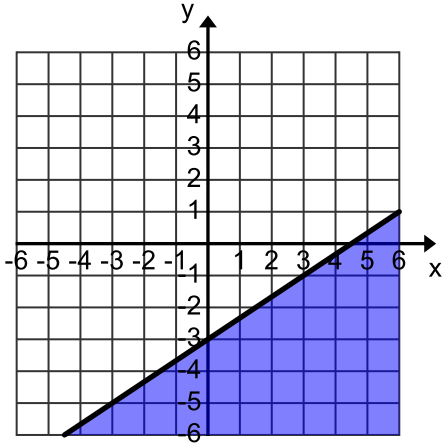
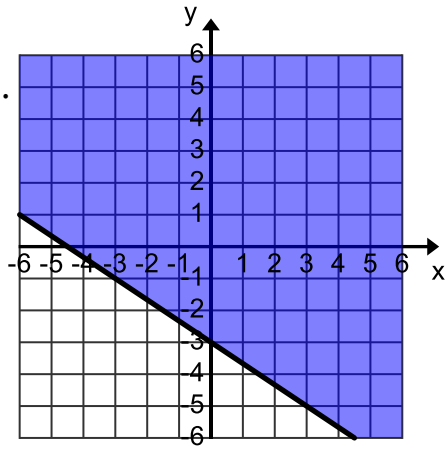
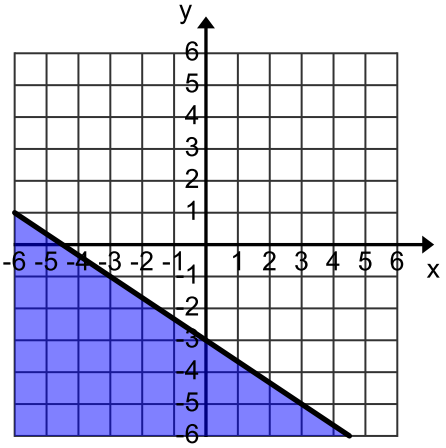


C.



D.



____19. Which inequality represents all the solution of $4(2x - 3) < 2(3x + 1)$

A. $x < 7$ B. $x > 7$ C. $x < -4$ D. $x > -4$

____20. A total of 100 adults and children are at a movie theater. There are 6 more adults than children in the theater. If a represents the number of adults and b represents the number of children, which system of equations could be used to find the number of adults and the number of children in the theater?

A. $\begin{cases} a + b = 100 \\ a = 6b \end{cases}$ B. $\begin{cases} a + b = 100 \\ a = b + 6 \end{cases}$

C. $\begin{cases} a+b=100 \\ b=a+6 \end{cases}$

D. $\begin{cases} a+b=100 \\ a=\dfrac{b}{6} \end{cases}$