TPS Geometry Placement Test

Please have your son or daughter answer the following questions. They should take this test **on their own** without the help of a calculator, book, notes, or other people. Please note the number of questions they answer correctly out of 15.

_____1. The line y = -2x + 12 has a slope of

a. 2 b. 12
c. -6 d. –2

_____2. The graph of $y = -2x^2 + 12$ is a

a. parabola that opens up b. line with a positive slope
c. parabola that opens down d. line with a negative slope

_____3. Solve $-5x - 10 \leq x + 2$

a. $x \leq 2$ b. $x \leq -2$
c. $x \geq -2$ d. $x \geq 2$

_____4. Simplify $(3y^3)^2$

a. $3y^5$ b. $3y^6$ c. $9y^6$ d. $9y^5$

_____5. What is the slope of the line through the points (2, -1) and (-4, 3)?

a. $\frac{-2}{3}$ b. $\frac{2}{3}$ c. $\frac{-3}{2}$ d. -1

_____6. Write $\frac{2x}{3} + 4\left(\frac{x}{3}\right) - 5\left(\frac{1}{3}x\right)$ as a single fraction.

a. $\frac{11x}{3}$ b. $\frac{x}{9}$ c. $\frac{x}{3}$ d. $\frac{2x-1}{3}$

_____7. The graph of which of the following equations is a line?

a. $y = 2^x - 4$ b. $y = x^2 + x + 2$
c. $y = x^2 + 3$ d. $y = x - 1$

_____8. Solve: $y^2 + 9 = 25$

a. 16 or –16 b. 4 or –4
c. 4 d. 256

_____9. Solve: 5(3 – 2y) = 10y

a. ¾ b. 0

c. 4/3 d. 15

_____10. Give an exact equivalent without using a calculator to $\sqrt{75}$

a. $25\sqrt{3}$ b. $5\sqrt{3}$

c. $3\sqrt{5}$ d. 8.5

_____11. Multiply the binomials (m + 2)(m + 4).

a. $m^2 + 8$ b. $m^2 + 6m + 8$

c. 2m + 6 d. $m^2 + 2m + 4$

_____12. Factor $9c^2 – 12c$

a. (3c – 6)(3c – 2) b. 3c(3c – 4)

c. $9(c^2 – 3c)$ d. 3(3c – 4)(c + 2)

_____13. Multiply $(m + 8)^2$

a. $m^2 + 8$ b. $m^2 + 64$

c. 2m + 16 d. $m^2 + 16m + 64$

_____14. Find all of the solutions to the equation $|x + 9| = 12$.

a. 3 only b. 3 or –3

c. 3 or –21 d. no solution

_____15. Solve the equation for y: 5y – 2 = -27:

a. 5 b. –5

c. –6 d. 20