33. Mrs. Smith wrote "Eight less than three times a number is greater than fifteen" on the board. If x represents the number, which inequality is a correct translation of this statement?

A. $3x - 8 > 15$

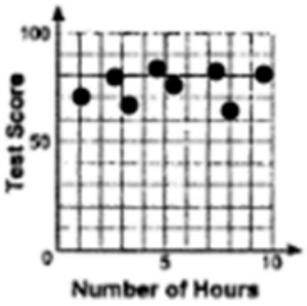
B. $3x - 8 < 15$

C. $8 - 3x > 15$

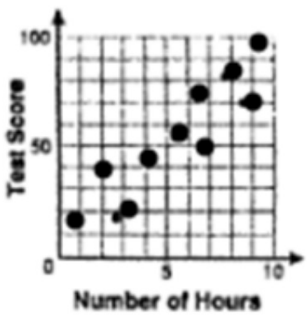
D. $8 - 3x < 15$

34. There is a negative correlation between the number of hours a student watches television and his or her social studies test score. Which scatterplot below displays this correlation?

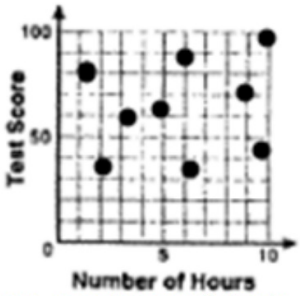
A.



B.

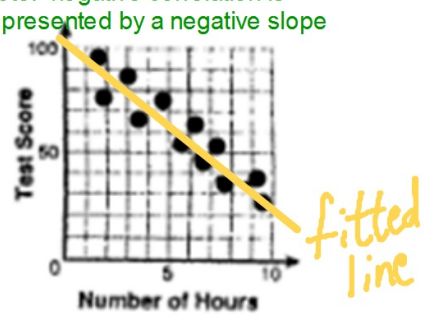


C.



D.

Note: negative correlation is represented by a negative slope



35. When $3g^2 - 4g + 2$ is subtracted from $7g^2 + 5g - 1$, the difference is

A. $-4g^2 - 9g + 3$

B. $4g^2 + g + 1$

C. $4g^2 + 9g - 3$

D. $10g^2 + g + 1$

CLT

$7g^2+5g-1-(3g^2-4g+2)=7g^2+5g-1-3g^2+4g-2=$

$4g^2+9g-3$

Put the expression that you are subtracting in parentheses, because you are subtracting the whole thing. Then the signs will change as you distribute the negative one over all three terms.

36. Factored completely, the expression $2x^2 + 10x - 12$ is equivalent to

A. $2(x-6)(x+1)$

B. $2(x+6)(x-1)$

C. $2(x+2)(x+3)$

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

$2x^2+10x-12$

G.C.F. $\rightarrow 2(x^2+5x-6)$

$2(x+6)(x-1)$

37. Factored, the expression $16x^2 - 25y^2$ is equivalent to

$(4x-5y)(4x+5y)$

A. $(4x-5y)(4x+5y)$

B. $(4x-5y)(4x-5y)$

C. $(8x-5y)(8x+5y)$

D. $(8x-5y)(8x-5y)$

It's the difference of 2 perfect squares pattern. Notice how the middle term drops out if we work in reverse and F.O.I.L.

$(4x-5y)(4x+5y)$

$16x^2+20xy-20xy-25y^2=16x^2-25y^2$

Multiply.

38. What is the product of $-3x^2y$ and $(5xy^2+xy)$?

A. $-15x^3y^3-3x^3y^2$

B. $-15x^3y^3-3x^3y$

C. $-15x^2y^2-3x^2y$

D. $-15x^3y^3+xy$

$-3x^2y\cdot(5xy^2+xy)=-15x^3y^3-3x^3y^2$

Note: Multiplication is commutative, but it was easier to put the $-3x^2y$ first so that we could distribute from the front.

39. Which value of x makes the expression $\frac{x+4}{x-3}$ undefined?

A. -4

B. -3

C. 3

D. 0

$\frac{3+4}{3-3} = \frac{7}{0}$

You can't divide by zero. That's what makes it undefined.

40. Which expression represents $\frac{25x-125}{x^2-25}$ in simplest form?

A. $\frac{5}{x}$

B. $-\frac{5}{x}$

C. $\frac{25}{x-5}$

D. $\frac{25}{x+5}$

GCF

$\frac{25x-125}{x^2-25} = \frac{25(x-5)}{(x+5)(x-5)} = \frac{25}{x+5}$

In the denominator, it was the difference of two squares pattern again.