



Let's Talk the Math Talk

<https://www.youtube.com/channel/UCWc-pdSSs-VOxPMVv4Ao7VA>

<https://ged.com/practice-test/en/calculator/>

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<http://www.webmath.com/gpoints.html>

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Starburst Math Questions

Can you solve the problem corresponding to the color Starburst you chose?

PINK:

Solve for x. $\ln(3x - 1) + \ln 4 = \ln 20$

RED:

Calculate the slope of the function at the given point.

$$y = x^3 - 6x^2 + 9x - 4 \text{ at } x = 2$$

ORANGE:

Solve for x. $4^{2x+3} = 1$

YELLOW:

$$ab = 5$$

$$a + b = 10$$

$$a^3 + b^3 = ?$$

Starburst Math Questions - KEY

PINK:

Solve for x.

$$\ln(3x - 1) + \ln 4 = \ln 20$$

Combine left side into one ln by multiplying:
ln 20

$$\ln[4(3x - 1)] = \ln 20 \rightarrow \ln(12x - 4) =$$

If $\ln a = \ln b$, then $a = b$:
Solve for x:

$$12x - 4 = 20$$

$$\boxed{x = 2}$$

RED:

Calculate the slope of the function at the given point.

$$y = x^3 - 6x^2 + 9x - 4 \text{ at } x = 2$$

Find the first derivative of the function:
Plug in your value of x:
Simplify:

$$y' = 3x^2 - 12x + 9$$

$$3(2)^2 - 12(2) + 9$$

$$12 - 24 + 9 = \boxed{-3}$$

ORANGE:

Solve for x.

$$4^{2x+3} = 1$$

Anything to the power of 0 equals 1:
Set exponent equal to 0:
Solve for x:

$$4^0 = 1$$

$$2x + 3 = 0$$

$$\boxed{x = -3/2}$$

YELLOW:

$$ab = 5$$

$$a + b = 10$$

$$a^3 + b^3 = ?$$

$$(a + b)^2 = 10^2$$

$$a^2 + 2ab + b^2 = 100$$

$$a^2 + 2(5) + b^2 = 100$$

$$a^2 + b^2 = 90$$

$$a^3 + b^3 = (a + b)(a^2 - ab + b^2)$$

$$a^3 + b^3 = (a + b)(a^2 + b^2 - ab)$$

$$a^3 + b^3 = (10)(90 - 5)$$

$$\boxed{a^3 + b^3 = 850}$$

Skittles Probability Activity

$$Probability = \frac{Favorable\ Outcomes}{Possible\ Outcomes}$$

Color	Number	Probability
Red		
Orange		
Yellow		
Green		
Purple		
TOTAL		

1. Which color of Skittles has the LOWEST probability of being selected? GREATEST probability?
2. What is the probability of selecting a green OR red Skittle?
3. You pick one Skittle at random, put it back, and then pick a second Skittle. What is the probability that the first Skittle was yellow AND the second Skittle was purple?

Think About It: Are any of the probabilities from your Skittles bag *unusual* or out of the ordinary? Why?