Elisabeth Jaffe
jaffe.elisabeth@bcchsnyc.net

Mathematical Puzzles in Literature

The Lottery by Shirley Jackson

Topics for discussion:

Suppose we conducted the lottery in the classroom, what would be your chances of being chosen if a group is equivalent to a family? How does this compare to the chance of your fellow classmates?

How many orders in which to choose the papers are possible? In _The Lottery_ they chose alphabetically.

Old Man Warren says he has been in the lottery for 77 years. Why is this significant?

Do you have the same chance of being chosen if you choose first as opposed to last? Why or why not?

Does the probability of getting chosen change if we look at the papers all together at the end as opposed to looking at the paper as soon as we choose?

The Housekeeper and the Professor by Yoko Ogawa

Topics for discussion:

What was the most surprising discovery you made about numbers?

Is this always true? Can we prove it?

$$0$$
$$1+2=3$$
$$4+5+6=7+8$$
$$9+10+11+12=13+14+15$$
$$16+17+18+19+20=21+22+23+24$$
$$25+26+27+28+29+30=31+32+33+34+35$$
$$36+37+38+39+40+41+42=43+44+45+46+47+48$$
$$49+50+51+52+53+54+55+56=57+58+59+60+61+62+63$$
$$64+65+66+67+68+69+70+71+72=73+74+75+76+77+78+79+80$$
$$81+82+83+84+85+86+87+88+89+90=91+92+93+94+95+96+97+98+99$$

What is the next number in each of the following sequences?
         a) 2, 6, 12, 20, 30, 42, 56

         b) 15, 12, 24, 20, 33, 28, 42,

What is special about the number 28? What about 3217? What about the relationship between 220 and 284?

Consider two numbers and look for any relationships between these two numbers? What can we consider when looking for a relationship?