

**Solving Equations Quiz**

Find the value of the variable that makes the following equations true. AKA solve them ☺

1)  $\frac{1}{2}(x-8)=10$

2)  $9x-8=10$

3)  $7a-4a-2=16+a$

4)  $8+x=-22$

5)  $-3=y-2(y-4)$

6)  $3x+4=7x+8$

7) Which of the following values of x is a solution to the equation:  $3(x-2)+4=10+x$

a)  $x=4$

b)  $x=6$

c)  $x=-2$

d)  $x=-4$

8) Forbis and Ryan enrolled in a pumpkin pie eating contest. Half way through the contest Forbis is ahead by 7 pieces. Ryan is determined to win so he starts eating 2 pieces a minute whereas Forbis (who is starting to get a tummy ache) is only eating 1 piece a minute.

a) Write an expression that relates the number of pies that Forbis has eaten and the number of minutes that have gone by

b) Write an expression that relates the number of pies that Ryan has eaten and the number of minutes that have gone by.

c) Write AND solve an equation that represents how many minutes it takes for Ryan to catch up to Forbis in the pie eating contest.

9) Same contest, new scenario: Ryan (who showed up on time) is eating pie at a rate of 1.5 pies per minute. Forbis, who showed up 10 minutes later begins eating pies at a rate of 2.5 pies per minute.

a) Write an equation that represents how long it will take for Forbis to catch up to Ryan in the pie eating contest.

b) Solve the equation above. Say what your answer represents.