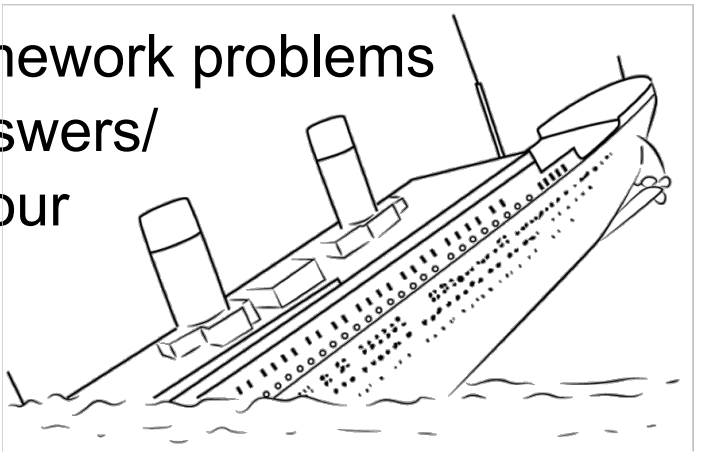
Warm Up

10/30

Go to Google Classroom to see what items I would like screenshots of for quick checkins.

October 30, 2023

Get out your homework problems and compare answers/ strategies with your group.



Exercises 16 and 17 use the survival rate data of men, women, and children on the *Titanic*.

Passenger Category	Saved	Lost
Men	338	1,352
Women	316	109
Children	56	53

425

16. Which of these claims about survival rates on the *Titanic* are true? Explain your reasoning.

T **a.** More men than women were saved. $338 > 316$

F **b.** Women were more likely than children to be lost. $\frac{109}{425} < \frac{53}{109}$

F **c.** Men were about six times as likely to be saved as children.

$$\frac{338}{1690} < \frac{56}{109}$$

woman lost: $109/425 = \sim 26\%$

child lost: $53/109 = \sim 49\%$

Men saved: 20%

child saved: 51%

Passenger Category	Saved	Lost	
Men	338	1,352	1690
Women	316	109	425
Children	56	53	109

17. Another way to see whether men, women, and children were lost at the same rate is to find the overall survival rate for all *Titanic* passengers. Use the overall rate to find expected survival counts for each passenger category. Overall, 32% of passengers were saved and 68% lost their lives.

a. Use the total numbers of men, women, and children on board the *Titanic* and use the overall survival rates. Copy and complete the table below.

if all had a 32% chance of being saved

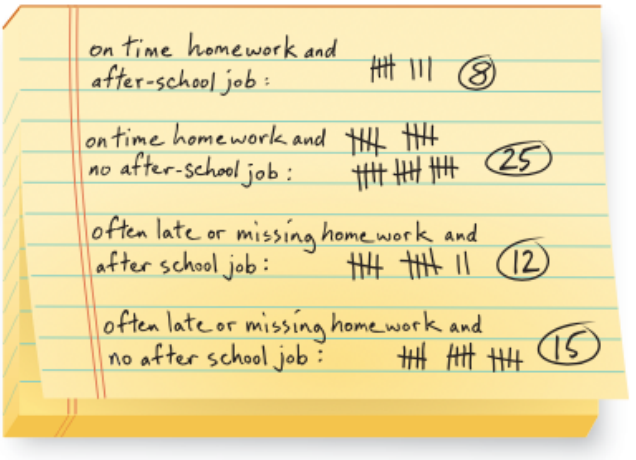
Passenger Category	Expected Saved	Expected Lost	
Men	1690 · .32 = 541	1149	Were women & children rescued first?
Women	136	289	YES
Children	35	74	

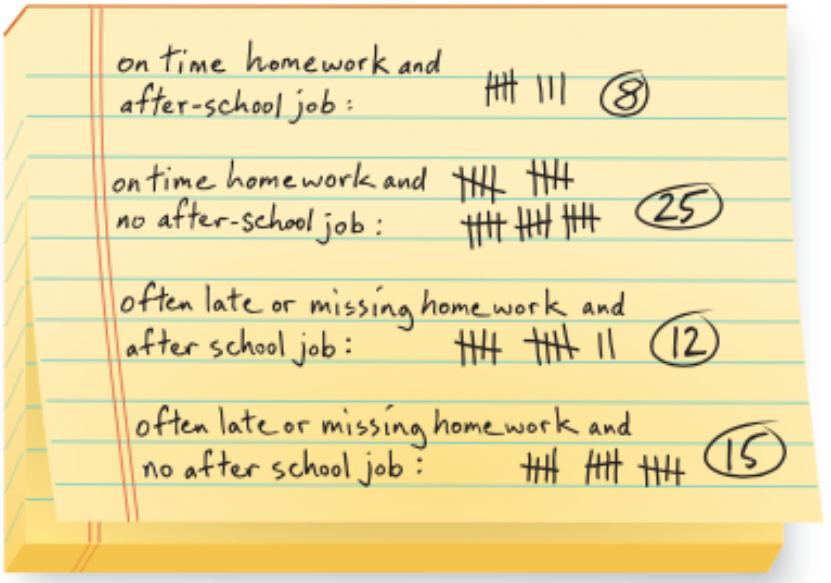
b. Compare the table in part (a) with the data table. Which passenger categories had greater numbers of survivors than you would expect if all categories had the same proportion? Explain.

5.3 After-School Jobs and Homework

Working Backward: Setting up a Two-Way Table

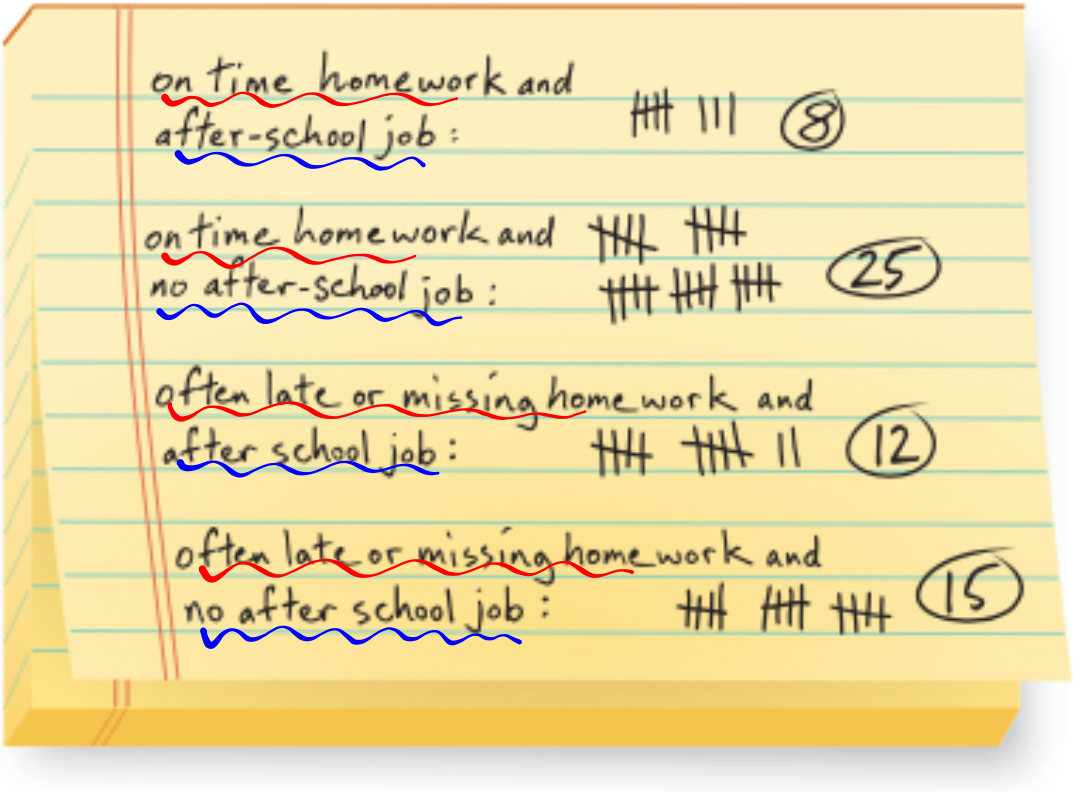
The teachers at the high school did a study to see whether students who had jobs after school were more or less likely to turn in homework on time than students who did not have after-school jobs. Each student was categorized as *usually on time* or *often late* with homework and as *having a job* or *not having a job*. Here are the results.

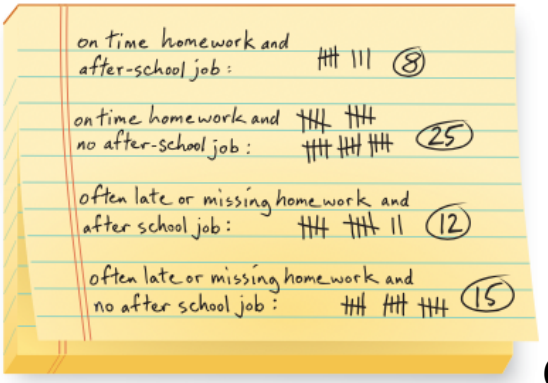




Is there evidence that students with after-school jobs are more likely to have late or missing homework than students without after-school jobs?

What are we comparing?





	On time HW	Late/ Missing HW	Totals
Job	8	12	20
No Job	25	15	40
Totals	33	27	60

Problem 5.3

Use the information about the students to answer these questions.

A Make a table to display the data on students and after-school jobs.

B Use your table from Question A. Do you think each statement is *true* or *false*? Justify your answers.

1. Students without after-school jobs are more likely to have late or missing homework than students with after-school jobs.
2. Students with after-school jobs are more likely to have late or missing homework than on-time homework.
3. Students without after-school jobs are three times as likely as students with after-school jobs to have on-time homework.
4. Students with after-school jobs are less likely to have on-time homework than students without after-school jobs.

C

1. The numbers of students with and without after-school jobs are not the same. Rewrite the data in your table as fractions and percents.
2. Do the fractions and percents in your table change your answers to Question B? Explain your reasoning.

D If someone claims that the data and analysis show that after-school jobs cause students to have late or unfinished homework, what alternate explanations would you offer? What do you think could be the cause of late or unfinished homework other than after-school jobs?

October 30, 2023

Homework

Finish Classwork