3.8 Lesson 8 Relative frequency with Grim dice

Consider a game in which two players roll a single Grim dice each. The player with the highest score wins. Let us investigate the probabilities behind this game.

1. Pick a red and a blue die. Why are these dice different to normal?

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your results. (You can take into account the 20 previous rolls). Total trials =

Red die wins	
Blue die wins	

5. What is your group's relative frequency for blue winning? for red winning?

6. Share results with class and write down relative frequency for all trials done by class of

bl	olue winning and red winning																								

Let us add a new twist to the game :

Each players picks two dice of the same color. The one that rolls the highest total wins.

7. Roll 2 blue dice. What are the possible totals of the two dice?



- 8. Roll 2 red dice. What are the possible totals of the two dice?
- 9. Battle two red dice and twoblue dice 20 times, then 3minutes and keep score.

Double Red dice wins	
Double Blue dice wins	
Total trials	

10. Write down your group's rela-

tive frequencies of double blue dice winning and of double red dice winning

- 11. Share results with class and write down relative frequency for all trials done by class of

double blue winning and double red winning :

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12. For the remaining time, repeat trials (3 min for each case) with single then double Red vs Olive dice, as well as for single and double Blue vs Olive dice. What do you notice ?

Single Blue die wins						
Single Olive die wins						
Total trials						
Double Blue dice wins						
Double Olive dice wins						
Total trials						

24