

Focus & Within Grade Coherence

Task Handout, Grade 7

Major Task #1

Molly runs $\frac{1}{3}$ of a mile in 4 minutes.

- a. If Molly continues at the same speed, how long will it take her to run one mile?
- b. Draw and label a picture showing why your answer to part (a) makes sense.

Source: Available from <https://www.illustrativemathematics.org/content-standards/tasks/828> accessed on 10 June 2016, licensed by Illustrative Mathematics under CC BY-NC-SA 4.0.

Major Task #2

Below is a table showing the number of hits and the number of times at bat for two Major League Baseball players during two different seasons:

Season	Derek Jeter	David Justice
1995	12 hits in 48 at bats	104 hits in 411 at bats
1996	183 hits in 582 at bats	45 hits in 140 at bats

A player's *batting average* is the fraction of times at bat when the player gets a hit.

- For each season, find the players' batting averages. Who has the better batting average?
- For the combined 1995 and 1996 seasons, find the players' batting averages. Who has the better batting average?
- Are the answers to (a) and (b) consistent? Explain.

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Supporting Task #1

Each of the 20 students in Mr. Anderson's class flipped a coin ten times and recorded how many times it came out heads.

- How many heads do you think you will see out of ten tosses?
- Would it surprise you to see 4 heads out of ten tosses? Explain why or why not.
- Here are the results for the twenty students in Mr. Anderson's class. Use this data to estimate the probability of observing 4, 5 or 6 heads in ten tosses of the coin. (It might help to organize the data in a table or in a dot plot first.)

Student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Number of heads	3	5	4	6	4	8	5	4	9	5	3	4	7	5	8	6	3	6	5	7

Source: Available from <https://www.illustrativemathematics.org/content-standards/7/SP/C/6/tasks/1521> accessed on 10 June 2016, licensed by Illustrative Mathematics under CC BY--NC--SA 4.0.

Within Grade Coherence Task #1

In New York, state sales tax rates vary by county. In Allegany County, the sales tax rate is $8\frac{1}{2}\%$.

- A book costs \$12.99, and a video game costs \$39.99. Rounded to the nearest cent, how much more is the tax on the video game than the tax on the book?
- Using n to represent the cost of an item in dollars before tax and t to represent the amount of sales tax in dollars for that item, write an equation to show the relationship between n and t .
- Using your equation, create a table that includes five possible pairs of solutions to the equation. Label each column appropriately.

Source: EngageNY.org of the New York State Education Department. Grade 7 Mathematics, Module 4, Mid-Module Assessment. Available from <https://nysed-prod.engageny.org/resource/grade-7-mathematics-module-4/file/117481> accessed 10 June 2016.

Within Grade Coherence Task #2

The taxi fare in Gotham City is \$2.40 for the first $\frac{1}{2}$ mile and additional mileage charged at the rate \$0.20 for each additional 0.1 mile. You plan to give the driver a \$2 tip. How many miles can you ride for \$10?

Source: Available from <https://www.illustrativemathematics.org/content-standards/tasks/884> , accessed on 7 July 2015, licensed by Illustrative Mathematics under CC BY--NC--SA 4.0.