Unit 2 Lesson 17: Graphs of Rational Functions (Part 1)

1 Biking 10 Miles (Part 1) (Warm up)

Student Task Statement

Kiran's aunt plans to bike 10 miles.

1. How long will it take if she bikes at an average rate of 8 miles per hour?

2. How long will it take if she bikes at an average rate of r miles per hour?

3. Kiran wants to join his aunt, but he only has 45 minutes to exercise. What will their average rate need to be for him to finish on time?

4. What will their average rate need to be if they have t hours to exercise?

2 Biking 10 Miles (Part 2)

Student Task Statement

Kiran plans to bike 10 miles.

1. Write an equation that gives his time t, in hours, as a function of his rate r, in miles per hour.

2. Graph $y = t(r)$.

3. What is the meaning of $t(8)$? Does this value make sense? Explain your reasoning.

4. What is the meaning of $t(0)$? Does this value make sense? Explain your reasoning.

5. As r gets closer and closer to 0, what does the behavior of the function tell you about the situation?

6. As r gets larger and larger, what does the end behavior of the function tell you about the situation?

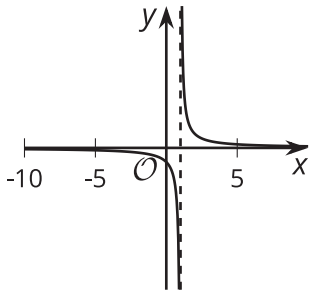# 3 Card Sort: Graphs of Rational Functions

Images for Launch

$$g(x) = \frac{6}{x-1}$$

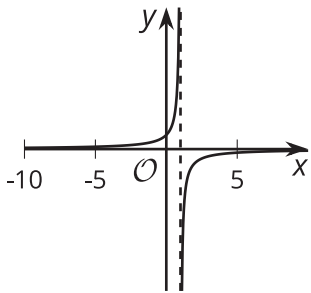$$f(x) = \frac{6}{x}$$
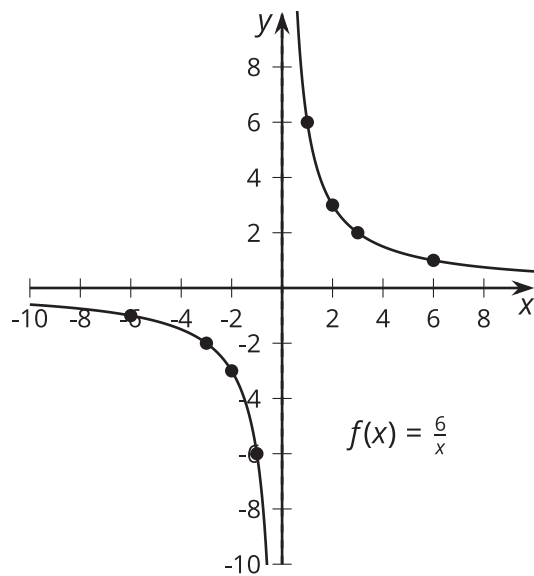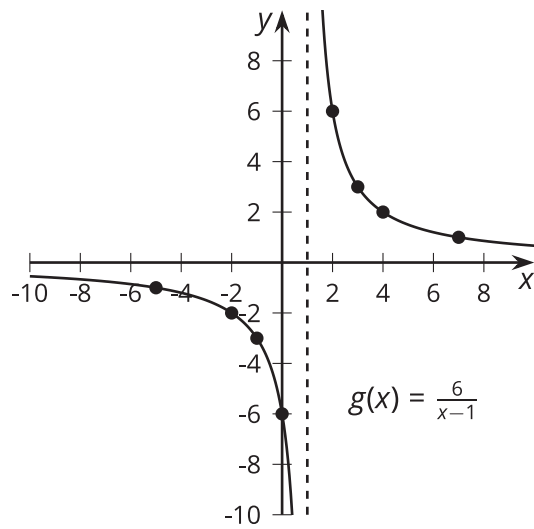
Student Task Statement

Your teacher will give you a set of cards. Match each rational function with its graphical representation.
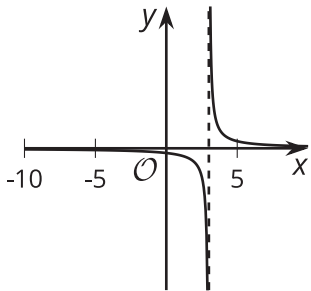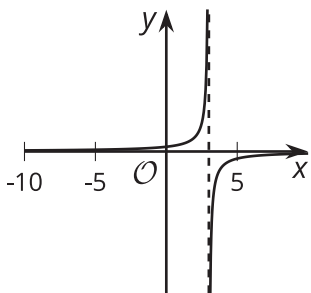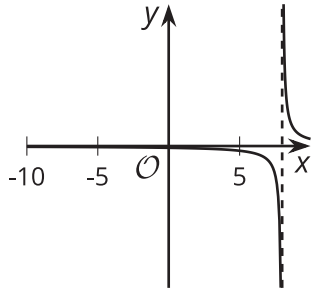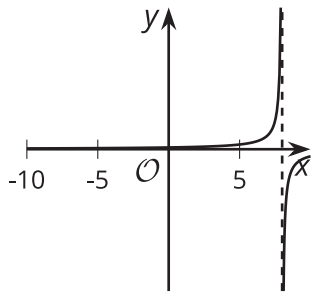
Images for Activity Synthesis

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