1. Identify the vertical asymptote and the horizontal asymptote of the rational function:

$$f(x) = \frac{2x^2 + 17x + 15}{x^2 - 6x - 27}$$

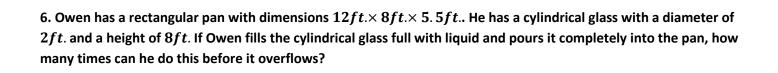
Vertical asymptote:

**Horizontal asymptote:** 

- 2.
- . A cone has a volume of  $432\pi$  cm<sup>3</sup> and a height of 9 cm.
  - a) Calculate the radius of the cone
  - b) Calculate the slant height of the cone.

- 3. True or False: It is possible to prove a quadrilateral is a parallelogram if one pair of opposite angles is congruent.
- 4. The volume of a cube measures  $4,913 \ cm^3$ . What is the length of one side of the cube?

5. Which point of concurrency is the intersection of the medians of the triangle?



7. Find the product: 
$$(8+3i)(2-5i)$$

8. Use synthetic division to find the value of the remainder:

$$3x^4 - 15x^2 + 7x - 9 \div (x-3)$$

9. What is the area of a  $80^{\circ}$  sector in the circle  $(x+4)^2+(y-7)^2=121$ ?

10. Write the resulting transformed function when the parent graph: f(x) = |x| is translated up 4 and right 6.