

## Chapter 8 White Board Problems – Answers

Simplify

1.  $\frac{3}{5(a-1)}$

2.  $\frac{3}{8n^2}$

3.  $\frac{a-4b}{5a+2b}$

4.  $\frac{b-1}{8}$

5.  $\frac{1}{a^3b^5}$

Solve

1.  $x = \frac{27}{4}$

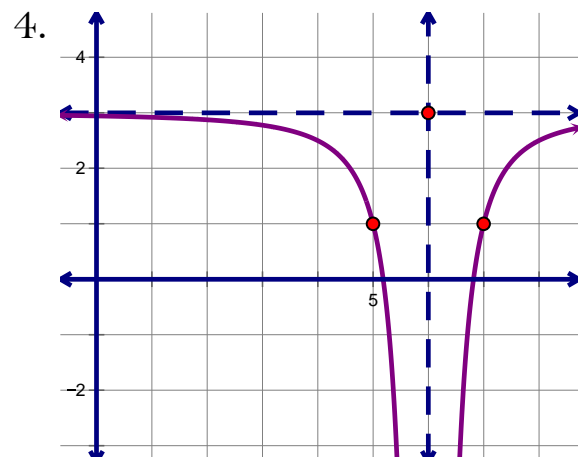
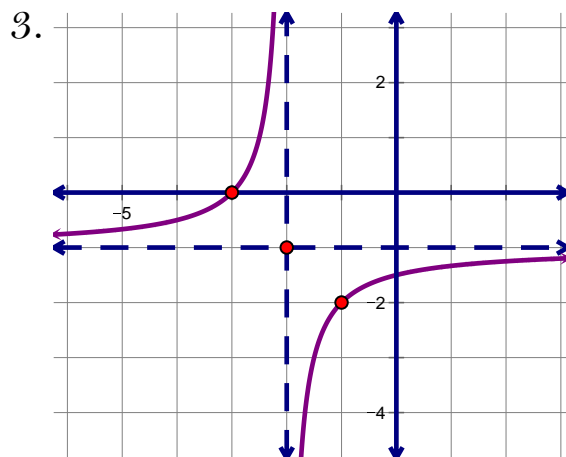
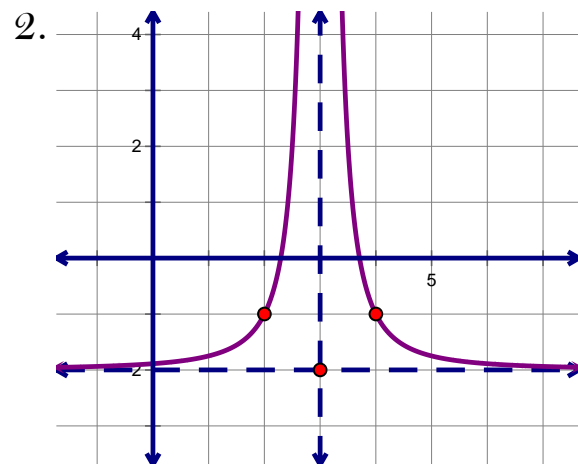
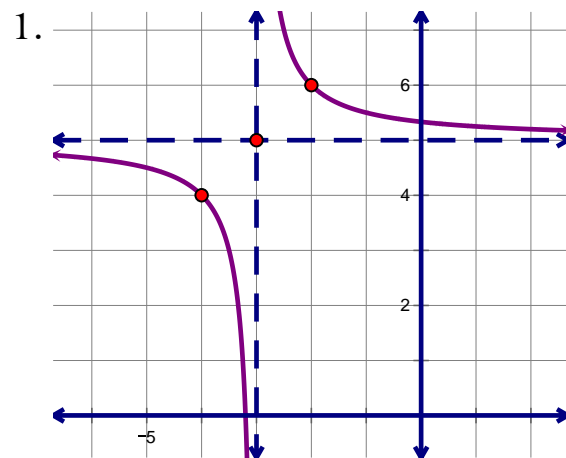
2.  $k = \frac{1}{6}$

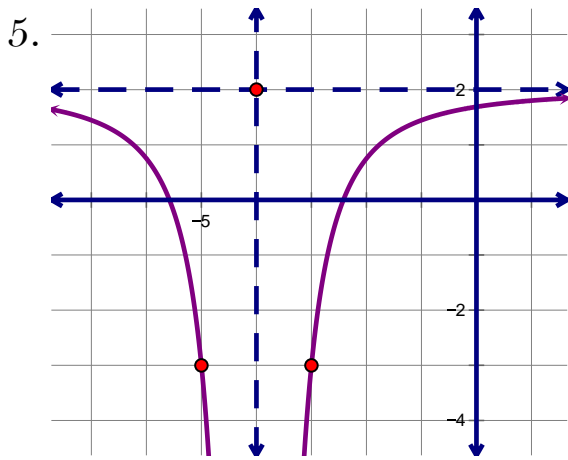
3.  $m = 8$

4.  $m = \frac{9}{28}$

5.  $b = \frac{2}{3}, b = -2$

### Rational Function Graphs





$$D: (-\infty, -4) \cup (-4, \infty) \quad R: (-\infty, 2)$$

$$\text{Asymp: } x = -4, y = 2$$

### Rational Function Equations

$$1. f(x) = \frac{1}{(x+1)^2} \quad 2. f(x) = \frac{1}{x-2} + 4$$

$$3. f(x) = -\frac{5}{x-11}; \quad D: (-\infty, 11) \cup (11, \infty) \quad R: (-\infty, 0) \cup (0, \infty)$$

Asymp:  $x = 11, y = 0$

$$4. f(x) = -\frac{2}{x^2} - 1 \quad 5. f(x) = -\frac{3}{x+2} + 1$$

### Applications

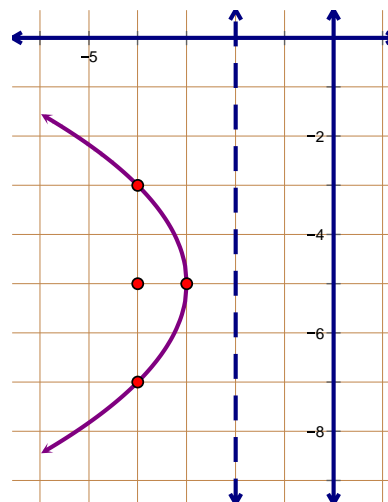
1. 66 games
2. 173.333 ounces
3. 11 grams
4. 11.111 grams
5. 1.5 pounds

### Parabolas

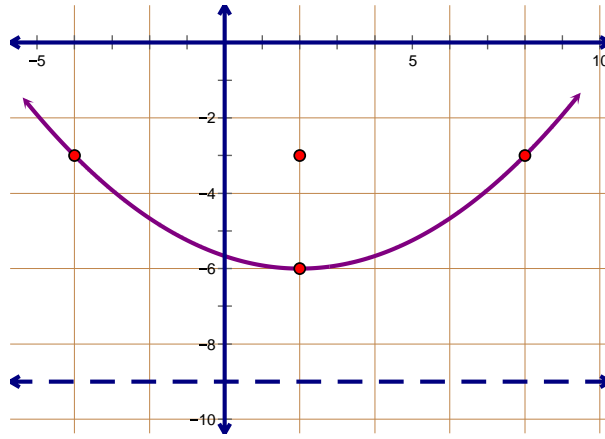
$$1. \left(1, \frac{1}{2}\right)$$

$$2. y = 8$$

$$3. (y+5)^2 = -4(x+3)$$



$$4. (x-2)^2 = 12(y+6)$$



$$5. (x+8)^2 = -24(y+3)$$

### Distances and Circles

$$1. \sqrt{26}$$

$$2. (x+1)^2 + (y-3)^2 = 16$$

$$3. y = 6, y = 14$$

$$4. (x-4)^2 + (y+16)^2 = 9$$

$$5. (x-3)^2 + (y-2)^2 = 25$$

$$x^2 + y^2 - 6x - 4y - 12 = 0$$