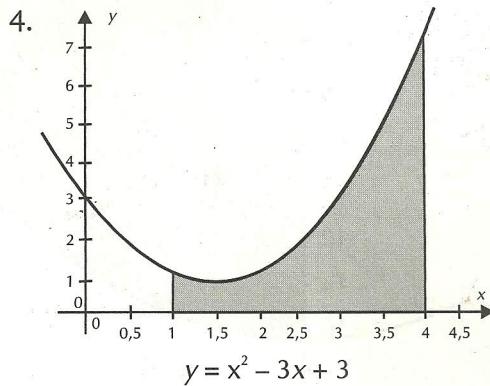
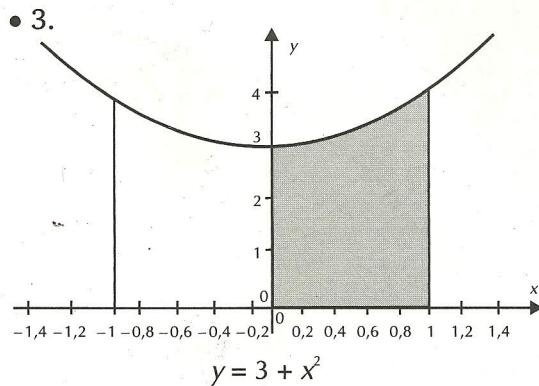
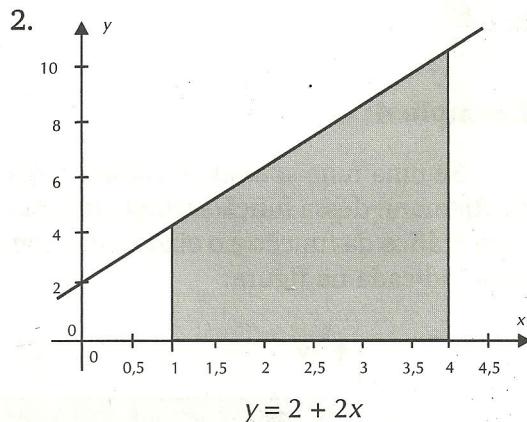
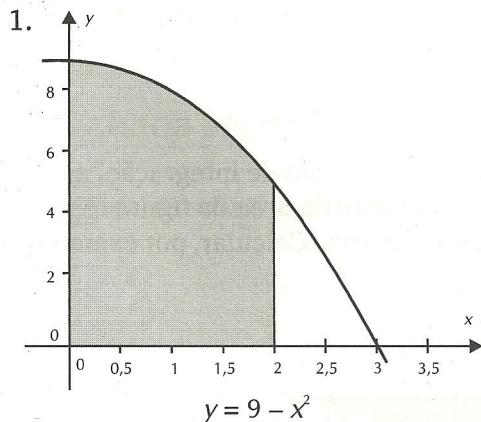


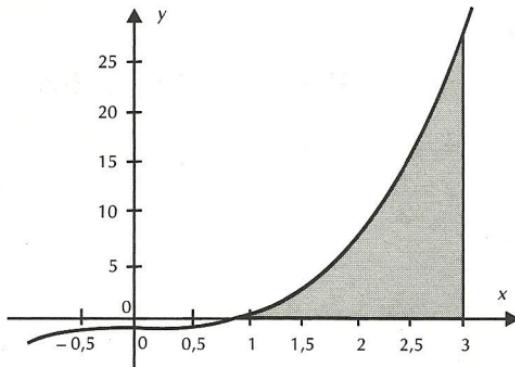
EXERCÍCIOS PROPOSTOS

Calcular a área indicada em cada uma das figuras:



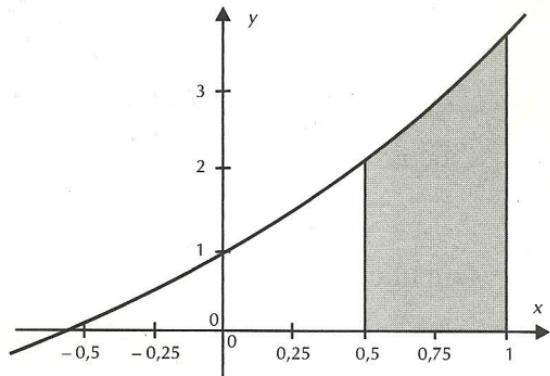
218 MATEMÁTICA BÁSICA PARA CURSOS SUPERIORES

5.



$$y = x^3 - 1$$

• 6.



$$y = e^x + x$$

Respostas

1. $\frac{46}{3}$

2. 21

3. $\frac{20}{3}$

4. 7,50

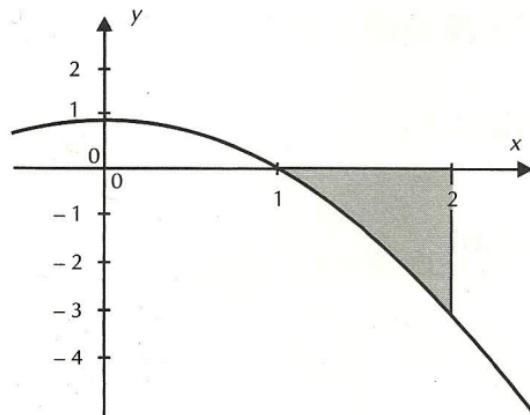
5. 18

6. 1,44

EXERCÍCIOS PROPOSTOS

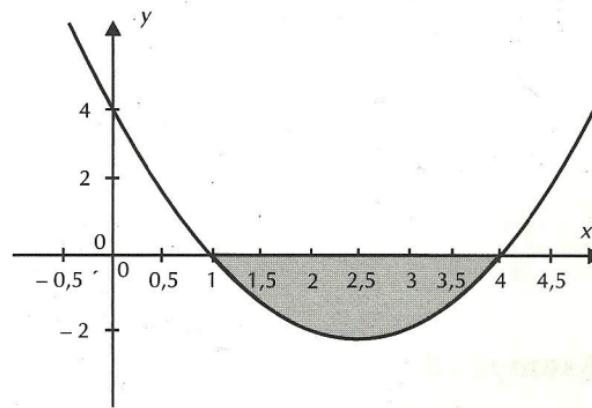
Calcular cada uma das áreas indicadas nas figuras:

1.



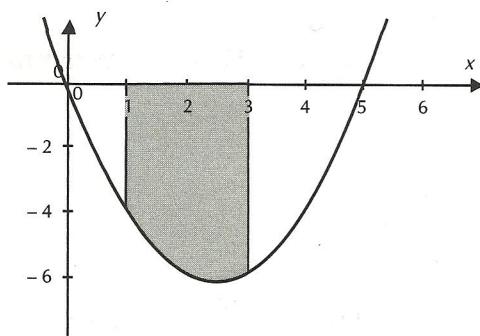
$$y = 1 - x^2$$

2.



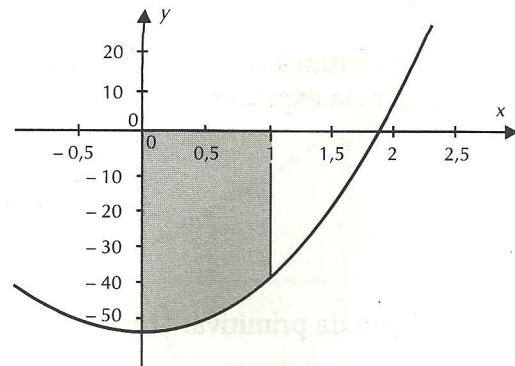
$$y = x^2 - 5x + 4$$

• 3.



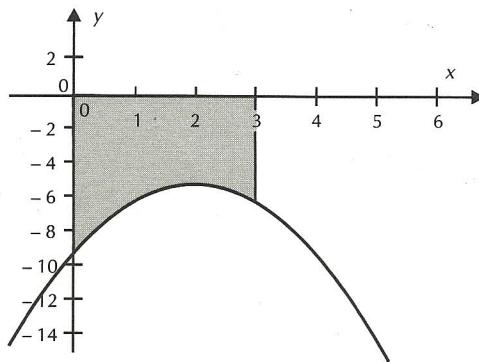
$$y = x^2 - 5x$$

4.



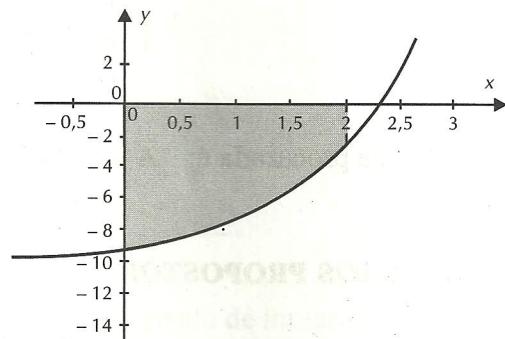
$$y = x^3 + 12x^2 - 50$$

• 5.



$$y = -x^2 + 4x - 9$$

6.



$$y = e^x - 10$$

Respostas

1. $\frac{4}{3}$

4. 45,75

2. $\frac{9}{2}$

5. 18

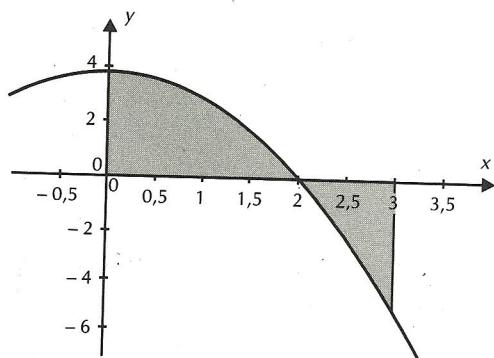
3. $\frac{34}{3}$

6. 13,61

EXERCÍCIOS PROPOSTOS

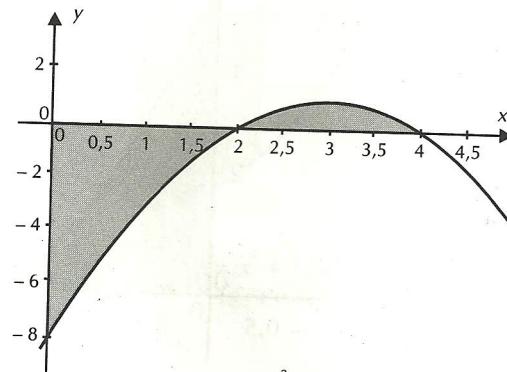
Calcular cada uma das áreas indicadas nas figuras:

1.



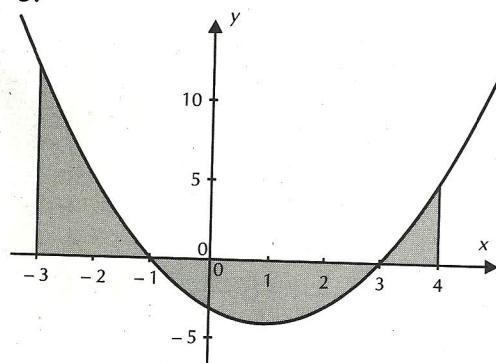
$$y = 4 - x^2$$

• 2.



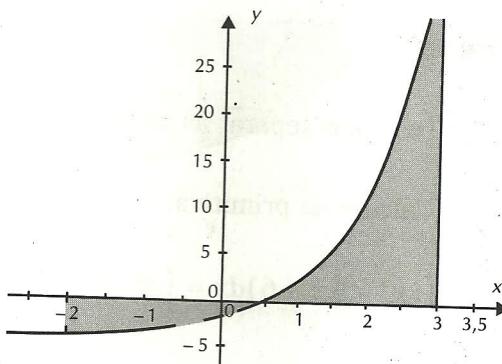
$$y = -x^2 + 6x - 8$$

3.



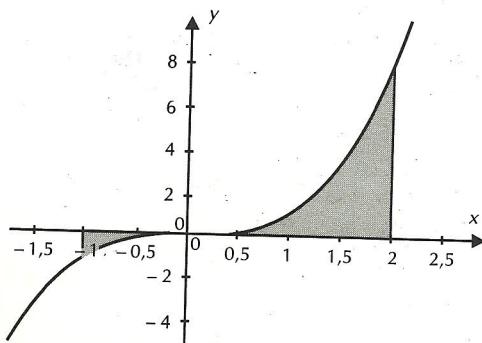
$$y = x^2 - 2x - 3$$

4.



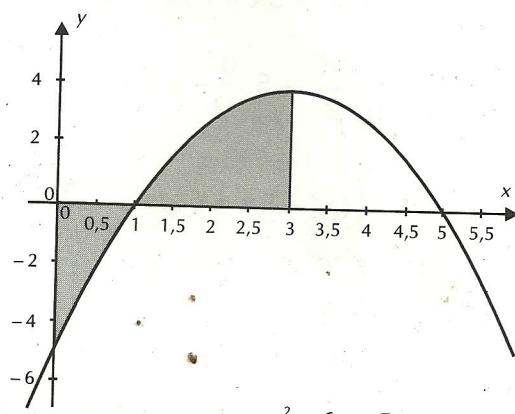
$$y = 2e^x - 4$$

5.



$$y = x^3$$

• 6.



$$y = -x^2 + 6x - 5$$

Respostas

1. $\frac{23}{3}$

4. 33,98

2. 8

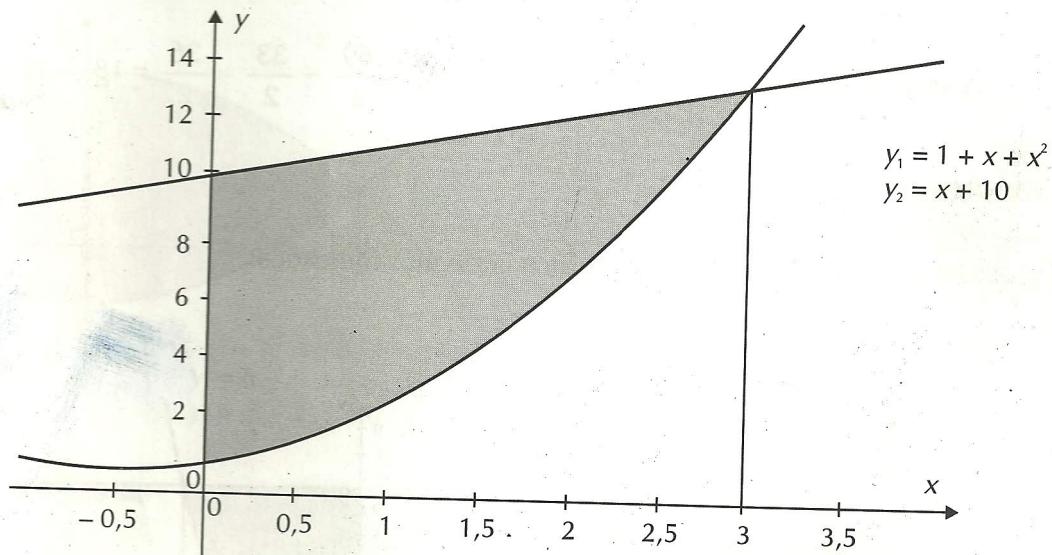
5. 4,25

3. 23,67

6. $\frac{23}{3}$

Exemplo 6:

A área entre duas curvas pode ser calculada a partir das áreas que cada uma delas forma com o eixo x . Calcular a área indicada na figura:

**Solução:**

Como a integral calcula a área formada pela curva e pelo eixo x , devemos neste caso calcular duas áreas.

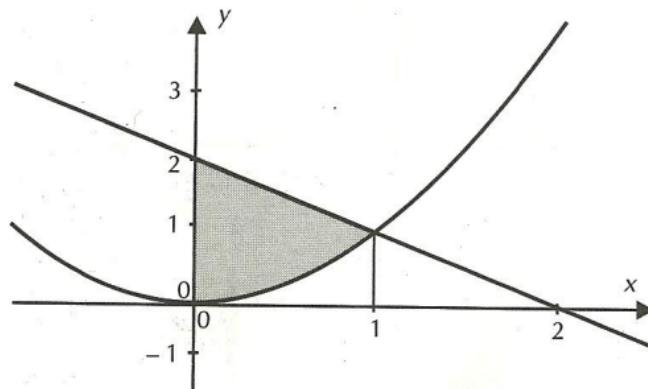
A_1 = Área formada pela curva y_1 e o eixo x .

A_2 = Área formada pela reta y_2 e o eixo x .

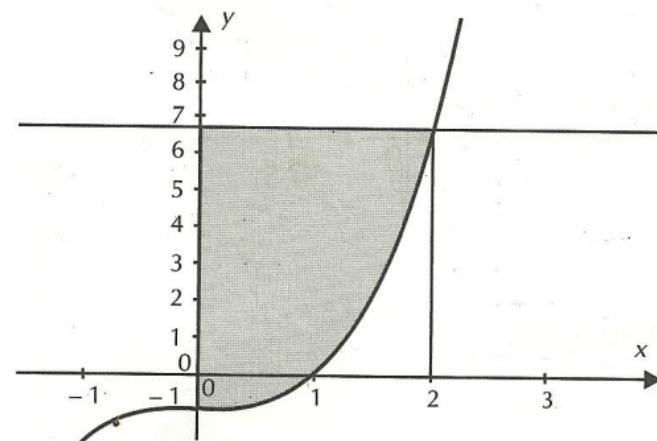
EXERCÍCIOS PROPOSTOS

Calcular a área entre as curvas, nos intervalos indicados:

1.



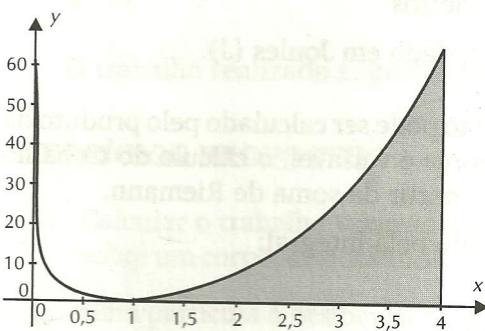
• 2.



$$y_1 = x^2$$
$$y_2 = 2 - x$$

$$y_1 = x^3 - 1$$
$$y_2 = 7$$

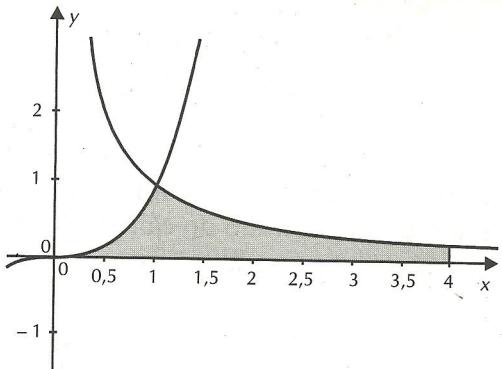
3.



$$y_1 = \frac{1}{x}$$

$$y_2 = x^3$$

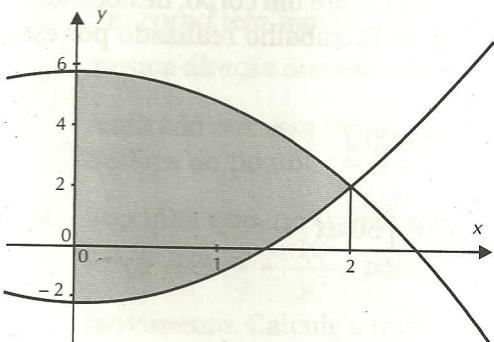
4.



$$y_1 = \frac{1}{x}$$

$$y_2 = x^3$$

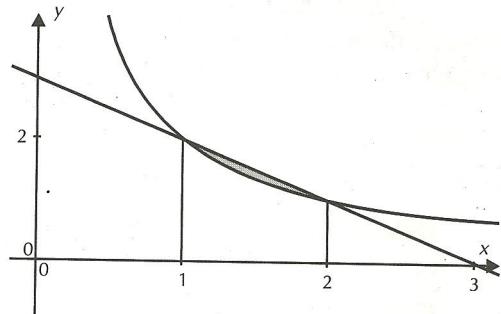
5.



$$y_1 = 6 - x^2$$

$$y_2 = x^2 - 2$$

6.



$$y_1 = \frac{2}{x}$$

$$y_2 = 3 - x$$

Respostas

1. $\frac{7}{6}$

4. 1,64

2. 12

5. 10,67

3. 62,36

6. 0,11