

# Evaluating Rational Functions

A) Evaluate each function at the specified value.

1)  $f(x) = \frac{-10}{6 - 9x^2}$  ;  $x = -3$

2)  $f(x) = \frac{x^2 - 4}{8x}$  ;  $x = 6$

\_\_\_\_\_

\_\_\_\_\_

B) Evaluate each function.

1)  $f(x) = \frac{4x + 5}{13 - x}$  ; find

find  $f(2)$

\_\_\_\_\_

\_\_\_\_\_

C) If  $f(x) = \frac{x^2}{7x + 18}$  ; find

1)  $f(-4) =$  \_\_\_\_\_

3)  $f(3) =$  \_\_\_\_\_

D) If  $f(x) = \frac{-6x}{4 - x^2}$  ; find

1)  $-2f(-5) + f(1) =$  \_\_\_\_\_

3)  $\frac{4f(-1)}{f(8)} =$  \_\_\_\_\_

4)  $3f(0) - 7f(-6) =$  \_\_\_\_\_

E) What is the value of  $f(4)$ , if  $f(x) = \frac{-16 - 5x^2}{-4x}$  ?

i)  $\frac{6}{5}$

ii) 16

iii) -9

iv) 6

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## Evaluating Rational Functions

A) Evaluate each function at the specified value.

1)  $f(x) = \frac{-10}{6-9x^2} ; x = -3$

$$\underline{\underline{\frac{2}{15}}}$$

2)  $f(x) = \frac{x^2-4}{8x} ; x = 6$

$$\underline{\underline{\frac{2}{3}}}$$

B) Evaluate each function.

1)  $f(x) = \frac{4x+5}{13-x} ;$  find

$$\underline{\underline{-\frac{9}{7} \text{ or } -1\frac{2}{7}}}$$

find  $f(2)$ 

$$\underline{\underline{0}}$$

C) If  $f(x) = \frac{x^2}{7x+18} ;$  find

1)  $f(-4) =$   $\underline{\underline{-\frac{9}{5} \text{ or } -1\frac{4}{5}}}$

3)  $f(3) =$   $\underline{\underline{\frac{25}{22} \text{ or } 1\frac{3}{22}}}$

D) If  $f(x) = \frac{-6x}{4-x^2} ;$  find

1)  $-2f(-5) + f(1) =$   $\underline{\underline{\frac{32}{3} \text{ or } 10\frac{2}{3}}}$

3)  $\frac{4f(-1)}{f(8)} =$   $\underline{\underline{10}}$

4)  $3f(0) - 7f(-6) =$   $\underline{\underline{\frac{63}{8} \text{ or } 7\frac{7}{8}}}$

E) What is the value of  $f(4)$ , if  $f(x) = \frac{-16-5x^2}{-4x}$ ?

i)  $\frac{6}{5}$

ii) 16

iii) -9

iv)  6

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