

Homework 3 Answers  
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Be first to report a math error for extra credit.

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**Exercise (2).** (1) D.N.E.

(2) D.N.E. ( $\infty$ )

(3) 0

(4)  $-2$

(5) 0

(6) 3

(7) 2

(8) D.N.E.

**Exercise (12).** 0

**Exercise (13).**  $\frac{1}{2}$

**Exercise (14).**  $-\frac{4}{5}$

**Exercise (17).** 2

**Exercise (18).** D.N.E.

**Exercise (19).** D.N.E.

**Exercise (20).** 1

**Exercise (22).** 0

**Exercise (25).**  $(-\infty, -5)$ ,  $(-5, -2)$ ,  $(-2, 1)$ ,  $[1, 3]$

**Exercise (26).** Not continuous at  $x = 0$ , horizontal asymptote  $y = \frac{1}{2}$ , limits 1 and 0 as  $x \rightarrow 0$  from left and right respectively.

**Exercise (28).**  $\frac{2}{3}$

**Exercise (40).** 0

**Exercise (41).**  $-\infty$

**Exercise (42).**  $\frac{1}{3}$

**Exercise (43).** 0

**Exercise (44).** 0

**Exercise (45).** Horizontal asymptote  $y = 2$ , vertical asymptotes  $x = -2$  and  $x = 1$ .

**Exercise (46).** No horizontal symptotes, vertical symptote  $x = 5$ .

**Exercise (47).** Horizontal asymptotes  $y = 0$  and  $y = 2$ , vertical symptote  $x = \ln 5$ .