

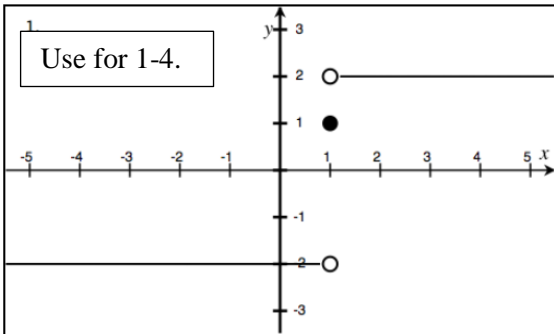
AP Calculus AB

SOLUTIONS

Skill Builder: Topic 1.3 – Estimating Limit Values from Graphs (Acrostic)

When completed properly, the table below will reveal a portion of a quote made famous by one of the founders of calculus. To unveil the letters, answer each multiple choice question correctly and place the appropriate letter in the square that corresponds to the question number. Not all problem numbers appear in the puzzle and some may appear more than once.

26	4	36	15	54	31	63		29	57	6	64		53	18	13	33	34	-	23		
W	I	T	H	O	U	T		M	A	T	H		T	H	E	R	E	'	S		
39	24	37	55	8	62	45		56	24	58		72	12	65		41	22	-			
N	O	T	H	I	N	G		Y	O	U		C	A	N		D	O				
38	5	38	33	14	46	30	8	1	27		43	67	42	11	61	68		66	22	16	
E	V	E	R	Y	T	H	I	N	G		A	R	O	U	N	D		Y	O	U	
49	47		19	57	46	20	-		44	50	44	21	51	6	2	60	61	27			
I	S		M	A	T	H	.		E	V	E	R	Y	T	H	I	N	G			
9	33	25	71	48	7		56	24	70		40	69		10	59	52	28	35	17	23	
A	R	O	U	N	D		Y	O	U		I	S		N	U	M	B	E	R	S	.



1. $\lim_{x \rightarrow 1^-} f(x) =$

N. -2

L. 2

P. 1

Q. -1

2. $\lim_{x \rightarrow 1^+} f(x) =$

G. -2

H. 2

I. undefined

J. 1

3. $\lim_{x \rightarrow 1} f(x) =$

D. DNE

F. 1

G. -2

H. 2

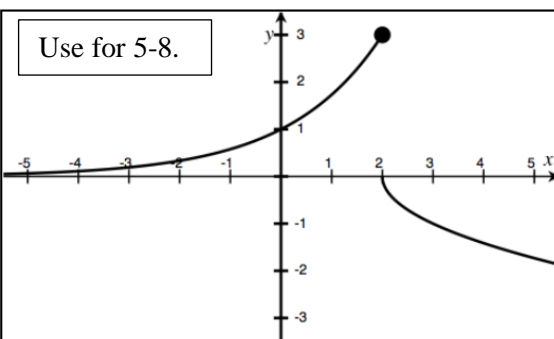
4. $f(1) =$

I. 1

T. 2

L. -2

N. -1



5. $\lim_{x \rightarrow 2^-} f(x) =$

V. 3

S. 2

L. undefined

M. ∞

6. $\lim_{x \rightarrow 2^+} f(x) =$

S. 3

T. 0

L. ∞

H. undefined

7. $\lim_{x \rightarrow 2} f(x) =$

J. 3

K. 0

L. ∞

D. DNE

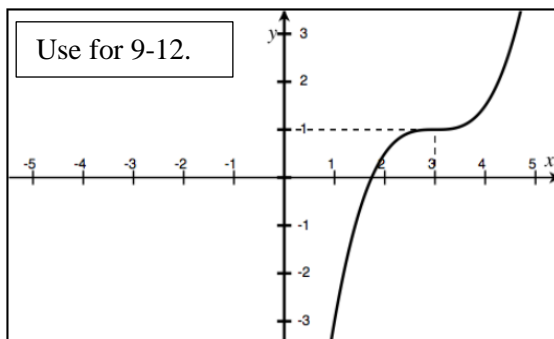
8. $f(2) =$

I. 3

K. 0

T. ∞

S. undefined



9. $\lim_{x \rightarrow 3^-} f(x) =$

C. 3

A. 1

G. undefined

H. ∞

10. $\lim_{x \rightarrow 3^+} f(x) =$

N. 1

E. 3

P. 0

O. undefined

11. $\lim_{x \rightarrow 3} f(x) =$

U. 1

V. -1

P. 3

R. undefined

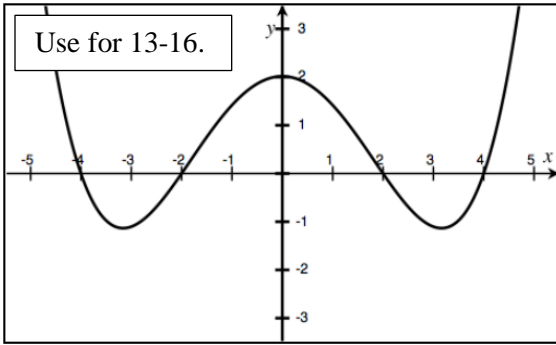
12. $f(3) =$

A. 1

O. 3

E. 0

I. undefined

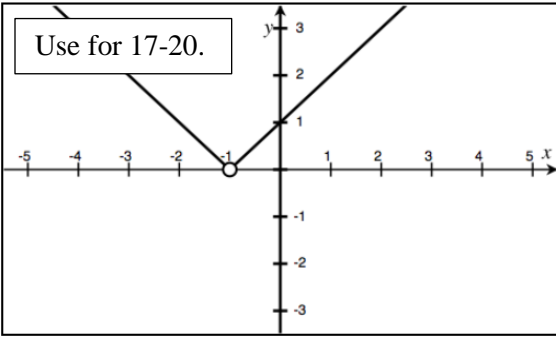


13. $\lim_{x \rightarrow 0^-} f(x) =$
F. 1 **E. 2**
S. 0 **C. undefined**

14. $\lim_{x \rightarrow 0^+} f(x) =$
A. 1 **T. 3**
Y. 2 **S. undefined**

15. $\lim_{x \rightarrow 0} f(x) =$
H. 2 **O. 3**
P. 0 **L. undefined**

16. $f(0) =$
U. 2 **O. 3**
N. 0 **I. undefined**

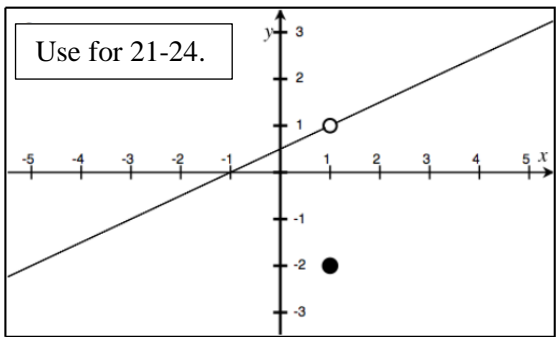


17. $\lim_{x \rightarrow -1^-} f(x) =$
R. 0 **W. -1**
U. undefined **V. ∞**

18. $\lim_{x \rightarrow -1^+} f(x) =$
E. -1 **H. 0**
I. 1 **O. undefined**

19. $\lim_{x \rightarrow -1} f(x) =$
M. 0 **L. -1**
I. 1 **O. undefined**

20. $f(-1) =$
A. 0 **E. -1**
I. 1 **H. undefined**

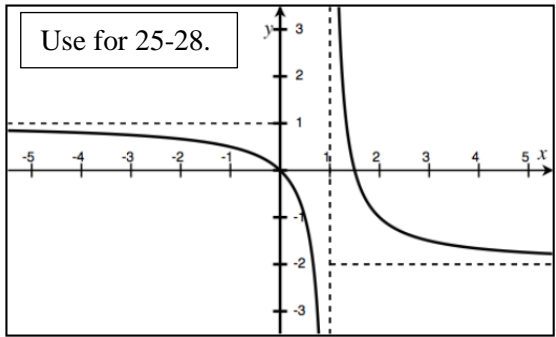


21. $\lim_{x \rightarrow 1^-} f(x) =$
A. 0 **E. -1**
R. 1 **O. undefined**

22. $\lim_{x \rightarrow 1^+} f(x) =$
A. 0 **E. -2**
O. 1 **L. undefined**

23. $\lim_{x \rightarrow 1} f(x) =$
T. 0 **I. -1**
S. 1 **G. undefined**

24. $f(1) =$
S. 0 **O. -2**
I. 1 **J. undefined**

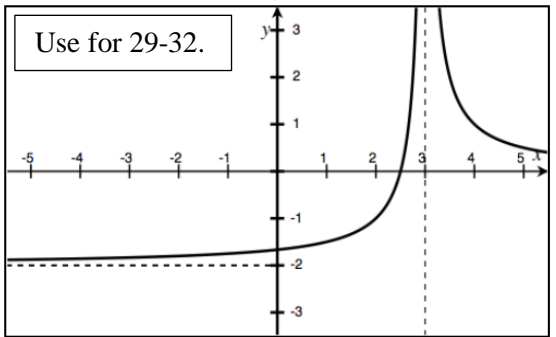


25. $\lim_{x \rightarrow 1^-} f(x) =$
O. $-\infty$ **E. 1**
I. -1 **S. ∞**

26. $\lim_{x \rightarrow 1^+} f(x) =$
A. $-\infty$ **E. 1**
S. 3 **W. ∞**

27. $\lim_{x \rightarrow 1} f(x) =$
A. $-\infty$ **H. 1**
G. DNE **P. ∞**

28. $f(1) =$
A. $-\infty$ **C. 1**
B. undefined **D. ∞**

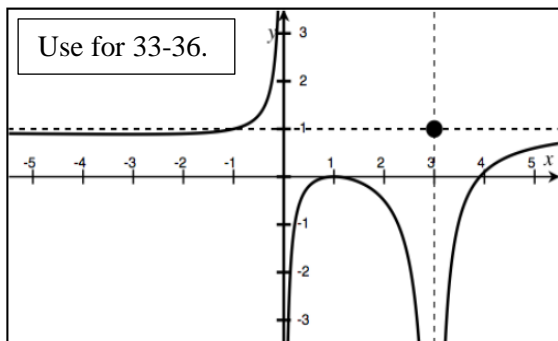


29. $\lim_{x \rightarrow 3^-} f(x) =$
E. $-\infty$ **B. 1**
S. 0 **M. ∞**

30. $\lim_{x \rightarrow 3^+} f(x) =$
V. $-\infty$ **E. 1**
I. DNE **H. ∞**

31. $\lim_{x \rightarrow 3} f(x) =$
L. $-\infty$ **P. 1**
I. undefined **U. ∞**

32. $f(3) =$
L. $-\infty$ **P. 1**
I. undefined **U. ∞**

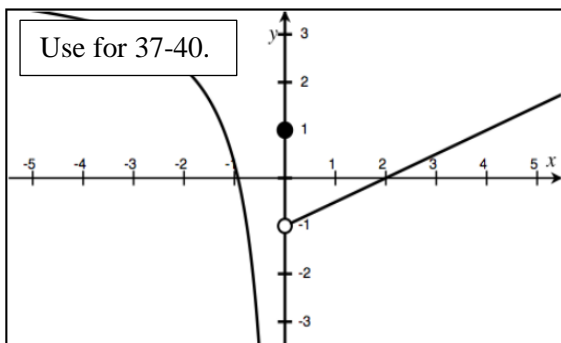


33. $\lim_{x \rightarrow 3^-} f(x) =$
R. $-\infty$ E. 1
 C. DNE K. ∞
 Choose the best answer.

34. $\lim_{x \rightarrow 3^+} f(x) =$
E. $-\infty$ S. 1
 I. DNE O. ∞
 Choose the best answer.

35. $\lim_{x \rightarrow 3} f(x) =$
E. $-\infty$ F. 1
 I. undefined O. ∞

36. $f(3) =$
 R. $-\infty$ **T. 1**
 S. undefined U. ∞

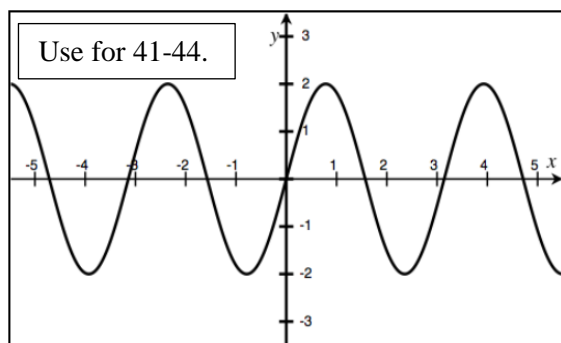


37. $\lim_{x \rightarrow 0^-} f(x) =$
T. $-\infty$ E. 1
 I. 0 O. -1

38. $\lim_{x \rightarrow 0^+} f(x) =$
 A. $-\infty$ S. 1
 I. DNE **E. -1**

39. $\lim_{x \rightarrow 0} f(x) =$
 S. $-\infty$ L. 1
N. DNE M. -1

40. $f(0) =$
 A. $-\infty$ **I. 1**
 C. undefined P. -1

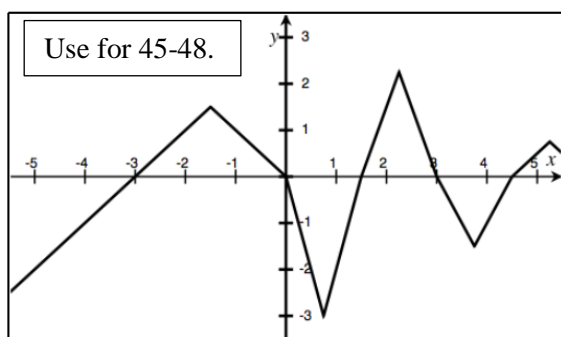


41. $\lim_{x \rightarrow 0^-} f(x) =$
 P. $-\infty$ **D. 0**
 I. DNE O. -1

42. $\lim_{x \rightarrow 0^+} f(x) =$
 F. $-\infty$ E. 1
O. 0 L. -1

43. $\lim_{x \rightarrow 0} f(x) =$
A. 0 E. 1
 I. DNE O. -1

44. $f(0) =$
 A. $-\infty$ **E. 0**
 I. DNE O. -1

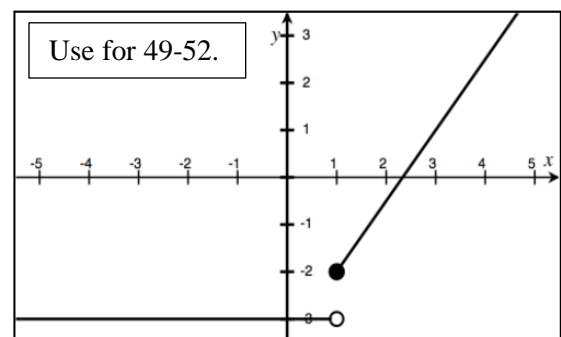


45. $\lim_{x \rightarrow 0^-} f(x) =$
 S. $-\infty$ E. -1
 P. DNE **G. 0**

46. $\lim_{x \rightarrow 0^+} f(x) =$
 P. $-\infty$ **T. 0**
 I. DNE S. -1

47. $\lim_{x \rightarrow 0} f(x) =$
 M. $-\infty$ **S. 0**
 L. DNE O. -1

48. $f(0) =$
 S. $-\infty$ P. undefined
N. 0 O. -1

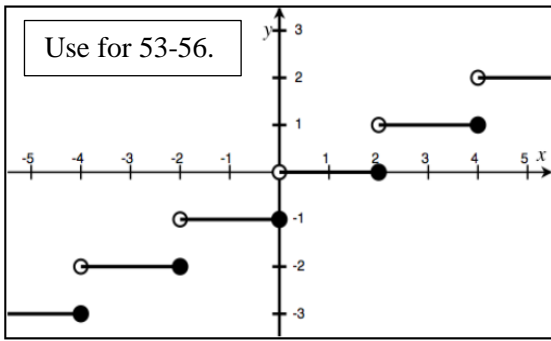


49. $\lim_{x \rightarrow 1^-} f(x) =$
 A. 1 E. -2
 M. DNE **I. -3**

50. $\lim_{x \rightarrow 1^+} f(x) =$
V. -2 S. -3
 I. 1 O. ∞

51. $\lim_{x \rightarrow 1} f(x) =$
 A. $-\infty$ P. 1
Y. DNE O. ∞

52. $f(1) =$
M. -2 N. 1
 L. undefined O. -3



53. $\lim_{x \rightarrow 0^-} f(x) =$

- S. $-\infty$ E. 0
A. DNE T. -1

54. $\lim_{x \rightarrow 0^+} f(x) =$

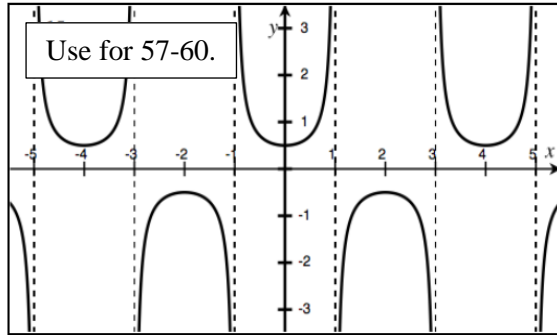
- M. $-\infty$ O. 0
I. DNE S. -1

55. $\lim_{x \rightarrow 0} f(x) =$

- W. $-\infty$ S. 0
H. DNE O. -1

56. $f(0) =$

- P. $-\infty$ O. undefined
I. 0 Y. -1



57. $\lim_{x \rightarrow 1^-} f(x) =$

- L. 1 H. -2
I. $-\infty$ A. ∞

58. $\lim_{x \rightarrow 1^+} f(x) =$

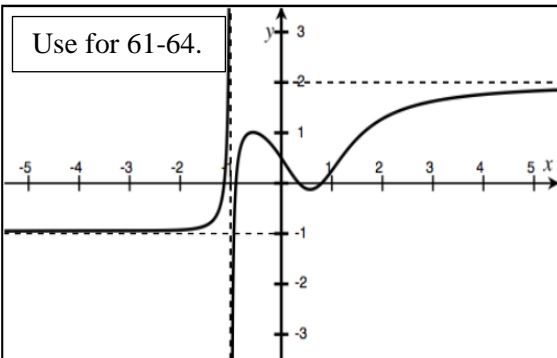
- A. -2 U. $-\infty$
I. 1 O. ∞

59. $\lim_{x \rightarrow 1} f(x) =$

- P. $-\infty$ S. 1
U. DNE O. ∞

60. $f(1) =$

- A. -2 E. 1
I. undefined O. -3



61. $\lim_{x \rightarrow -1^-} f(x) =$

- X. $-\infty$ P. 1
U. 0 N. ∞

62. $\lim_{x \rightarrow -1^+} f(x) =$

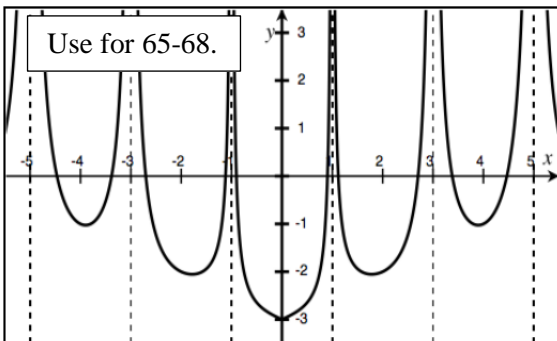
- A. 0 D. -1
N. $-\infty$ O. undefined

63. $\lim_{x \rightarrow -1} f(x) =$

- A. ∞ M. -1
S. 1 T. DNE

64. $f(-1) =$

- L. 0 P. -1
A. 1 H. undefined



65. $\lim_{x \rightarrow 0^-} f(x) =$

- A. 0 E. 1
I. -5 N. -3

66. $\lim_{x \rightarrow 0^+} f(x) =$

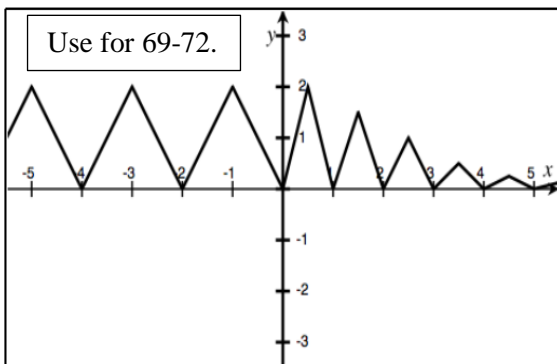
- Y. -3 P. 1
V. 0 O. 3

67. $\lim_{x \rightarrow 0} f(x) =$

- R. -3 P. 1
I. -5 L. 3

68. $f(0) =$

- D. -3 S. 1
I. -5 O. 3



69. $\lim_{x \rightarrow 0^-} f(x) =$

- L. DNE S. 0
I. ∞ O. $-\infty$

70. $\lim_{x \rightarrow 0^+} f(x) =$

- S. DNE U. 0
I. ∞ P. $-\infty$

71. $\lim_{x \rightarrow 0} f(x) =$

- A. DNE U. 0
I. ∞ O. $-\infty$

72. $f(0) =$

- L. undefined C. 0
I. ∞ O. $-\infty$