Question Statistics

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Assessment title: **Q17+Q18+Q19**

Question title: q11F071

Using differentials, (8.06)^(2/3) can be approximated to:

- a. 4.01
- b. 4.02
- c. 4.03
- d. 3.98
- e. 4.08

Response Summary

Answer	Value	Frequency Distribution
a.	0.00%	11 (16.7%)
b.	**100.00%**	**37 (56.1%)**
c.	0.00%	7 (10.6%)
d.	0.00%	8 (12.1%)
e.	0.00%	3 (4.5%)

Grade Distribution Summary

Grade	Frequency Distribution
0-10	26
11-20	0
21-30	0
31-40	0
41-50	0
51-60	0
61-70	0
71-80	0
81-90	0
91-100	34

N	Percent Answering Correctly			Discrimination	Mean	Median	Standard Deviation
	Whole Group	Upper 25%	Lower 25%				
60	56.67	100.00	33.33	66.67	56.67%	100.00%	49.97%

Question title: q12F071

The function f(x) = x - sqrt(x); 0 =< x =< 4 has

- a. absolute maximum 2 and no absolute minimum
- b. absolute maximum 0 and absolute minimum -1/4
- c. absolute maximum 2 and absolute minimum -1/4
- d. absolute maximum 2 and absolute minimum 0
- e. absolute maximum 4 and absolute minimum 1/4

Response Summary

Answer	Value	Frequency Distribution
a.	0.00%	4 (6%)
b.	0.00%	6 (9%)
c.	**100.00%**	**24 (35.8%)**
d.	0.00%	13 (19.4%)
e.	0.00%	20 (29.9%)

Grade Distribution Summary

Grade	Frequency Distribution
0-10	37
11-20	0
21-30	0
31-40	0
41-50	0
51-60	0
61-70	0
71-80	0
81-90	0
91-100	23

N	Percent Answering Correctly			Discrimination	Mean	Median	Standard Deviation
	Whole Group	Upper 25%	Lower 25%				
60	38.33	53.33	26.67	26.67	38.33%	0.00%	49.03%

Question title: q18F071

For the graph of the curve y = 3x^5 - 5x^3 + 3, which one of the following is FALSE?

- a. The graph has the local minimum at (0, 3).
- b. The graph is increasing over the interval (1,inf).
- c. The graph has the local minimum at (1, 1).
- d. The graph has the local maximum at (-1, 5).
- e. The graph is decreasing over the interval (-1, 1).

Response Summary

Answer	Value	Frequency Distribution
a.	**100.00%**	**30 (44.1%)**
b.	0.00%	9 (13.2%)
c.	0.00%	9 (13.2%)
d.	0.00%	9 (13.2%)
e.	0.00%	11 (16.2%)

Grade Distribution Summary

Grade	Frequency Distribution
0-10	30
11-20	0
21-30	0
31-40	0
41-50	0
51-60	0
61-70	0
71-80	0
81-90	0
91-100	30

N	Percent Answering Correctly			Discrimination	Mean	Median	Standard Deviation
	Whole Group	Upper 25%	Lower 25%				
60	50.00	86.67	0.00	86.67	50.00%	50.00%	50.42%

Question title: q19F071

If c is a number that satisfies the conclusion of the mean value theorem on the interval [0, 1] for the function f(x) = x^3 + 2x + 1, then 12c^2 + 1 is equal to

a. 3

b. 5

c. 7

d. 2

e. Undefined (The mean value theorem does not apply)

Response Summary

Answer	Value	Frequency Distribution
a.	0.00%	4 (6%)
b.	**100.00%**	**46 (68.7%)**
c.	0.00%	1 (1.5%)
d.	0.00%	1 (1.5%)
e.	0.00%	15 (22.4%)

Grade Distribution Summary

Grade	Frequency Distribution
0-10	18
11-20	0
21-30	0
31-40	0
41-50	0
51-60	0
61-70	0
71-80	0
81-90	0

91-100	42	

N	Percent Answering Correctly			Discrimination	Mean	Median	Standard Deviation
	Whole Group	Upper 25%	Lower 25%				
60	70.00	86.67	33.33	53.33	70.00%	100.00%	46.21%

Question title: q22F071

If y = tan^(-1) (csch (sqrt(x))), then 2y' sqrt(x) =

a. -sech(sqrt(x))/csch(sqrt(x))

b. -csch(sqrt(x))

c. -sech(sqrt(x))

d. sech(sqrt(x))

e. csch(sqrt(x))

Response Summary

Answer	Value	Frequency Distribution
a.	0.00%	11 (16.7%)
b.	0.00%	15 (22.7%)
c.	**100.00%**	**29 (43.9%)**
d.	0.00%	8 (12.1%)
e.	0.00%	3 (4.5%)

Grade Distribution Summary

Grade	Frequency Distribution
0-10	32
11-20	0
21-30	0
31-40	0
41-50	0
51-60	0
61-70	0
71-80	0

81-90	0
91-100	28

N	Percent Answering Correctly			Discrimination	Mean	Median	Standard Deviation
	Whole Group	Upper 25%	Lower 25%				
60	46.67	53.33	26.67	26.67	46.67%	0.00%	50.31%

Question title: q23F071

Starting with x1 = 1, the approximation x3 to the root of the equation x + ln x = 0 obtained by using Newton's method is

a. (1-ln 2)/3

b. (1+ln 2)/3

c. 1/2

d. 3/5 + (3/5) ln(2/3)

e. ln 2

Response Summary

Answer	Value	Frequency Distribution
a.	0.00%	31 (47%)
b.	**100.00%**	**25 (37.9%)**
c.	0.00%	2 (3%)
d.	0.00%	5 (7.6%)
e.	0.00%	3 (4.5%)

Grade Distribution Summary

Grade	Frequency Distribution
0-10	35
11-20	0
21-30	0
31-40	0
41-50	0
51-60	0
61-70	0

71-80	0
81-90	0
91-100	25

N	Percent Answering Correctly			Discrimination	Mean	Median	Standard Deviation
	Whole Group	Upper 25%	Lower 25%				
60	41.67	60.00	20.00	40.00	41.67%	0.00%	49.72%

Question title: q24F081

If M and m are the absolute maximum and the absolute minimum, respectively, of the function f (x) = x sqrt(4-x^2) on [-1, 2], then sqrt(3)M + 4m =

- a. -2sqrt(3)
- b. sqrt(3)
- c. -3sqrt(3)
- d. -3
- e. 3

Response Summary

Answer	Value	Frequency Distribution
a.	**100.00%**	**21 (31.3%)**
b.	0.00%	11 (16.4%)
c.	0.00%	15 (22.4%)
d.	0.00%	12 (17.9%)
e.	0.00%	8 (11.9%)

Grade Distribution Summary

Grade	Frequency Distribution
0-10	40
11-20	0
21-30	0
31-40	0
41-50	0
51-60	0

61-70	0
71-80	0
81-90	0
91-100	20

N	Percent Answering Correctly			Discrimination	Mean	Median	Standard Deviation
	Whole Group	Upper 25%	Lower 25%				
60	33.33	66.67	20.00	46.67	33.33%	0.00%	47.54%

Question title: q3F081

The sum of all critical numbers of the function f(x) = (x^2 + 3x + 2)^(4/5) is

- a. -9/2
- b. -3
- c. -5/2
- d. -3/2
- e. -7/2

Response Summary

Answer	Value	Frequency Distribution
a.	**100.00%**	**43 (64.2%)**
b.	0.00%	10 (14.9%)
c.	0.00%	3 (4.5%)
d.	0.00%	3 (4.5%)
e.	0.00%	8 (11.9%)

Grade Distribution Summary

Grade	Frequency Distribution
0-10	20
11-20	0
21-30	0
31-40	0
41-50	0

51-60	0
61-70	0
71-80	0
81-90	0
91-100	40

N	Percent Answering Correctly			Discrimination	Mean	Median	Standard Deviation
	Whole Group	Upper 25%	Lower 25%				
60	66.67	86.67	26.67	60.00	66.67%	100.00%	47.54%

Question title: q5F083

The radius of a circle increases from 3 cm to 3.025 cm. Using differentials, the best approximation in the increase of its area is equal to

a. 0.15 Pi

b. 0.75 Pi

c. 0.45 Pi

d. 0.09 Pi

e. 0.18 Pi

Response Summary

Answer	Value	Frequency Distribution
a.	**100.00%**	**37 (55.2%)**
b.	0.00%	4 (6%)
c.	0.00%	12 (17.9%)
d.	0.00%	5 (7.5%)
e.	0.00%	9 (13.4%)

Grade Distribution Summary

Grade	Frequency Distribution
0-10	26
11-20	0
21-30	0
31-40	0

41-50	0	
51-60	0	
61-70	0	
71-80	0	
81-90	0	
91-100	34	

N	Percent Answering Correctly			Discrimination	Mean	Median	Standard Deviation
	Whole Group	Upper 25%	Lower 25%				
60	56.67	93.33	26.67	66.67	56.67%	100.00%	49.97%

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