Pre-AP Pre-Cal

Secant and Tangent Lines

Name _____ Date _____

1. What is the average rate of change over $2 \le t \le 4$?

t	2	3	4	5	6
$f(t)$	1.8	3.4	4.6	6.4	8.4

a) 2.8 b) 1.4 c) -2.8
d) -1.4 e) 0.714

2. What is the average rate of change over $4 \le t \le 6$?

t	2	3	4	5	6
$f(t)$	1.8	3.4	4.6	6.4	8.4

a) 3.8 b) 1.9 c) -3.8
d) -1.9 e) 0.526

3. The table shows the position of an object moving along a line at 10 second intervals.

What is the average velocity, in units/sec, over $10 \le t \le 30$?

$t(sec)$	0	10	20	30	40
position	4	12	26	44	68

a) 0.16 b) 0.625 c) 3.2
d) 16 e) 1.6

4. The position of an object is given by $s = t^2 - 3t + 8$. What is its average velocity for $2 \le t \le 4$?

a) 2 b) -2 c) 3
d) -3 e) 0.333

5. The position of an object is given by $s = t^2 - 4t + 7$. What is its average velocity over $[t, t + \Delta t]$?

a) $t^2 - 4$
b) $t^2 - 4t$
c) $2t - 4$
d) $2t$
e) not enough information

6. The table shows the position of an object moving along a line at 10 second intervals.

Estimate the velocity, in units/sec, at $t = 15$.

$t(sec)$	0	10	20	30	40
position	4	12	26	44	68

a) 0.140 b) -0.714 c) -1.400
d) 0.714 e) 1.400

7. The table shows the position of an object moving along a line at 6 second intervals.

Estimate the velocity, in units/sec, at $t = 9$.

$t(sec)$	0	6	12	18	24
position	40	38	35	30	18

a) 0.500 b) -2.000 c) -0.500
d) 2.000 e) -1.000

8. The table shows the velocity of an object moving along a line at 2 second intervals.

Estimate the acceleration, in units/sec^2, at $t = 10$.

$t(sec)$	10	12	14	16	18
$v(units/sec)$	18.0	22.8	27.6	33.4	42.2

a) 1.800 b) 0.417 c) -0.417
d) 2.400 e) -2.400

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Answer List

1. b
2. b
3. e
4. c
5. c
6. e
7. c
8. d

Catalog List

1. APC DI 1
2. APC DI 2
3. APC DI 5
4. APC DI 7
5. APC DI 11
6. APC DC 11
7. APC DC 13
8. APC DC 15