

A.1

8. $\frac{144-84}{3} = 20$

10. a) 15.3 b) 20.2 c) 25.1 d) $-4.9h + 30$

12. a) 52 b) 60 c) 68 d) 76

16.

Interval	[2,3]	[2,2.5]	[2,2.1]	[2,2.01]	[2,2.001]
Avg. Vel.	5.5	7.95	9.91	10.351	10.395

Instantaneous
Vel. @ $t=2$ appears
to be 10.4

20. Interval

$[\frac{\pi}{2}, \pi]$	$[\frac{\pi}{2}, \frac{\pi}{2} + .1]$	$[\frac{\pi}{2}, \frac{\pi}{2} + .01]$	$[\frac{\pi}{2}, \frac{\pi}{2} + .001]$	$[\frac{\pi}{2}, \frac{\pi}{2} + .0001]$
-1.91	-.15 -.15	-.015	-.0015	-.00015

Instantaneous
Vel. @ $t = \frac{\pi}{2}$ appears
to be 0

Avg. Vel.

A.2

8. a) 2 b) 1 c) 2 d) 2

10. a) 2 b) 4 c) 2 e) 2

14. a)

x	.01	.001	.0001	.00001
$f(x)$	2.705	2.717	2.718	2.718

b) $\lim_{x \rightarrow 0} (1+x)^{1/x} \approx 2.71828$

x	-.01	-.001	-.0001	-.00001
$f(x)$	2.732	2.720	2.718	2.718

c) $e \approx 2.71828$

16. a) $\lim_{x \rightarrow 0} g(x) \approx 2$

b)

x	-.001	-.0001	.0001	.001
$g(x)$	1.9987	1.9999	2.0001	2.0013

20. $\lim_{x \rightarrow 100^+} g(x) \approx 20$

$\lim_{x \rightarrow 100^-} g(x) \approx 20$

$\lim_{x \rightarrow 100} g(x) = 20$

22. a) 3 b) 2 c) 3 d) DNE, $\lim_{x \rightarrow 2^-} g(x) \neq \lim_{x \rightarrow 2^+} g(x)$

e) 2 f) 3 g) 2 h) 3 i) 3