ARC (Average Rate of Change) $= \dfrac{f(b)-f(a)}{b-a}$

Find the ARC (Average Rate of Change) for the following functions for the given points.

1-a) $f(x) = 3x - 5$, *from* $x = 4$, *to* $x = 5$

1-b) $f(x) = 3x - 5$, *from* $x = 4.5$, *to* $x = 5$

1-c) $f(x) = 3x - 5$, *from* $x = 4.9$, *to* $x = 5$

1-d) $f(x) = 3x - 5$, *from* $x = h$, *to* $x = 5$

1-e) $f(x) = 3x - 5$, *from* $x = h$, *to* $x = a$

1-f) $f(x) = 3x - 5$, *from* $x = x$, *to* $x = x + h$

2-a) $f(x) = x^2 + 3$, *from* $x = 4$, *to* $x = 5$

2-b) $f(x) = x^2 + 3$, *from* $x = 4.5$, *to* $x = 5$

2-c) $f(x) = x^2 + 3$, *from* $x = 4.9$, *to* $x = 5$

2-d) $f(x) = x^2 + 3$, *from* $x = h$, *to* $x = 5$

2-e) $f(x) = x^2 + 3$, *from* $x = h$, *to* $x = a$

2-f) $f(x) = x^2 + 3$, *from* $x = x$, *to* $x = x + h$

3-a) $f(x) = \sqrt{x} - 2$, *from* $x = 4$, *to* $x = 5$

3-b) $f(x) = \sqrt{x} - 2$, *from* $x = 4.5$, *to* $x = 5$

3-c) $f(x) = \sqrt{x} - 2$, *from* $x = 4.9$, *to* $x = 5$

3-d) $f(x) = \sqrt{x} - 2$, *from* $x = h$, *to* $x = 5$

3-e) $f(x) = \sqrt{x} - 2$, *from* $x = a$, *to* $x = h$

3-f) $f(x) = \sqrt{x} - 2$, *from* $x = x$, *to* $x = x + h$

4-a) $f(x) = 3/(2 + x)$ *from* $x = 4$, *to* $x = 5$

4-b) $f(x) = 3/(2 + x)$ *from* $x = 4.5$, *to* $x = 5$

4-c) $f(x) = 3/(2 + x)$ *from* $x = 4.9$, *to* $x = 5$

4-d) $f(x) = 3/(2 + x)$ *from* $x = h$, *to* $x = 5$

4-e) $f(x) = 3/(2 + x)$ *from* $x = a$, *to* $x = h$

4-f) $f(x) = 3/(2 + x)$ *from* $x = x$, *to* $x = x + h$

Answers

1-a	1-b	1-c	1-d	1-e	1-f
3	3	3	3	3	3
2-a	**2-b**	**2-c**	**2-d**	**2-e**	**2-f**
9	9.5	9.9	$5 + h$	$a + h$	$2x + h$
3-a	**3-b**	**3-c**	**3-d**	**3-e**	**3-f**
$\sqrt{5} - \sqrt{4}$	$\sqrt{5} - \sqrt{4.5}$	$\sqrt{5} - \sqrt{4.9}$	$\sqrt{5} - \sqrt{h}$	$\sqrt{a} - \sqrt{h}$	$\sqrt{x} - \sqrt{x + h}$
4-a	**5-b**	**6-c**	**7-d**	**8-e**	**9-f**
$3/7 - 3/6$	$3/7 - 3/6.5$	$3/7 - 3/6.9$	$3/7 - 3/(2 + h)$	$3/(2 + a) - 3/(2 + h)$	$3/(2 + x) - 3/(2 + x + h)$