## IX. APPENDIX

TABLE IX: Detailed evaluation results of each testcase in RQ2

Type	Testcases	WAP	PROG	Pixy	RIPS	PHPS	TCH	WHIP	Yama
	1_static_variables	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$lackbox{lack}{lack}^P$
	2_global_variables	$\cap^N$	$\bigcirc^N$	$\overset{\smile}{ullet}{P}$	$\bigcirc^N$	$\bullet^P$	$\bigcirc^N$	$\bigcirc^N$	$ullet^P$
	3_global_array	$lackbox{}^P$	$\cap^N$	$lackbox{}^P$	$\cap^N$	$\bigcirc^N$	$\cap^N$	$\overset{\smile}{ullet}{P}$	$ullet^P$
	4_conditional_assignment	$lackbox{}^P$	lacksquare	lacksquare	ightharpoondow P	$\cap^N$	lacksquare	lacksquare	$ullet^P$
	5_combined_operator	$ullet^P$	$lackbox{}^P$	lacksquare	lacksquare	$\cap^N$	$lackbox{}^P$	lacksquare	$ullet^P$
	6_coalesce	$\bigcirc^N$	$\cap^N$	$\cap^N$	lacksquare	lacksquare	lacksquare	$\bigcirc^N$	$ullet^P$
	7_string_arithmetic_operations‡	lacksquare	$lackbox{}^P$	$\cap^N$	$ullet^P$	lacksquare	$ullet^P$	$ullet^P$	$\bullet^P$
	8_simple_reference	$\cap^N$	$\bigcirc^N$	$\cap^N$	$\bigcirc^N$	$\cap^N$	$\circ^N$	$\bigcirc^N$	lacksquare
	9_reference_argument	$\bigcirc^N$	$\bigcirc^N$	$\overset{\smile}{ullet}{P}$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bullet^P$
	10_return_by_reference‡	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	P
	11_foreach_with_reference	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	P
	12_make_ref_first_ex†	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bullet^P$	$\bigcirc^N$	P
	12_make_ref_second_ex <sup>N</sup> †	lacksquare	$lacksquare^N$	$lacksquare^N$	$lacksquare^N$	$lacksquare^N$	$\bigcirc^P$	$lacksquare^N$	N
	13_assign_static_prop_ref‡	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	P
	14_object_assigned_by_reference‡	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcap^{N}$	$\bigcirc^N$	P
	15_nested_function	$igcup_P$	lacksquare	lacksquare	$\bigcirc^N$	lacksquare	$\bigcirc^N$	$lacksquare^P$	P
	20_use_with_closures_first_ex <sup>N</sup>	lacksquare	lacksquare	$lacksquare^N$	$lacksquare^N$	lacksquare	$lacksquare^N$	$lacksquare^N$	N
	20_use_with_closures_second_ex	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	P
		$\bigcirc^N$	lacksquare	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$lackbox{}^{O}_{P}$	$lacksquare^{P}$	P
	21_simple_object‡	$igorplus^{P}$	$lackbox{\bullet}^P$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$lackbox{lack}{P}$	P
	22_assign_object‡	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	P
	23_object_argument‡	$\bigcirc^N$	lacksquare P	$\bigcirc^N$	O''	$\bigcirc^N$	O.N	lacksquare P	P
	24_new_self‡	ON	lacksquare		$\bigcirc_{N}^{N}$	O <sup>1</sup>	$\bigcirc^N$	• P	P
	25_clone‡	$\bigcirc^N$		$\bigcirc^N$	$\bigcirc_{N}^{N}$	$\bigcup_{N}^{N}$	$\bigcirc^N$	$lackbox{\bullet}^P$	P
	26_late_static_binding_first_ex‡	$\bigcirc_{N}^{N}$	$\bigcirc_N^N$	$\bigcirc_N^N$	$\bigcirc_{N}^{N}$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	
	26_late_static_binding_second_ex <sup>N</sup> ‡	lacksquare	$ullet^N_N$	lacksquare	$ullet^N_{N}$	$ullet^N_{N}$	$ullet^N_N$	$ullet^N_{N}$	_
	$26$ _late_static_binding_third_ex $^N$ ‡	lacksquare	lacksquare	$ullet^N$	$ullet^N_{N}$	$ullet^N_{N}$	$ullet^N_N$	$ullet^N_N$	lacksquare P
ု ဗွ	27_get_called_class‡	$\bigcirc_{N}^{N}$	$\bigcirc_{N}^{N}$	$\bigcirc_{N}^{N}$	$\bigcirc_{N}^{N}$	$\bigcirc_{N}^{N}$	$\bigcirc_{N}^{N}$	$\bigcirc_{N}^{N}$	
enc	28_static_methods‡	$\bigcirc_{N}^{N}$	$\bigcirc_{N}^{N}$	$\bigcirc_{N}^{N}$	$\bigcirc_{N}^{N}$	$\bigcirc_{N}^{N}$	$\bigcirc_{N}^{N}$	$\bigcirc_N^N$	$lackbox{\bullet}^P$
C1_type_inference	29_static_properties‡	$\bigcirc_{N}^{N}$	$\bigcirc_{P}^{N}$	$\circ_{N}^{N}$	$\bigcirc^N$	$\bigcirc_{N}^{N}$	$\bigcirc^N$	$\bigcirc^N$	$lackbox{\bullet}_{p}^{P}$
	30_anonymous_classes‡	$\bigcirc_{N}^{N}$	$\bullet^P$	$\circ_{N}^{N}$	$ullet^P$	$\bigcirc_{N}^{N}$	$\bullet^P$	$ullet^P$	$lackbox{\bullet}^P$
pe.	31_static_method_variable‡	$\bigcirc^N$	$\bigcirc^N$	$\circ^N$	$\circ^N$	$\bigcirc_{N}^{N}$	$lackbox{0.5}{P}$	$\bigcirc^N$	$lackbox{lack}{lack}^P$
[t.]	40_trait‡	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bullet^P$	$\bigcirc^N$	$lackbox{lack}{lack}^P$
CI	41_self_methods‡	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\circ^N$	$\bigcirc^N$	$lackbox{lack}^P$
	42_destructor‡	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$lackbox{lack}^P$
	44_verify_return_type_first_ex‡	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$lackbox{}^P$
	44_verify_return_type_second_ex‡	$\circ^N$	$\bigcirc^N$	$\bigcirc^N$	$\circ^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$ullet^P$
	45_static_method_from_variable‡	$\bigcirc^N$	$\bigcirc^N$	$\cap^N$	$\cap^N$	$\bigcirc^N$	$\cap^N$	$\cap^N$	$lackbox{}^P$
	46_object_to_array‡	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\cap^N$	$\bigcirc^N$	$\cap^N$	$\bigcirc^N$	$lackbox{}^P$
	47_overriding‡	$\bigcirc^N$	$lackbox{}^P$	lacksquare	$ullet^P$	$\bigcirc^N$	$\cap^N$	lacksquare	$lackbox{}^P$
	48_construct_with_inheritance‡	$\bigcirc^N$	$ullet^P$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\cap^N$	$lackbox{lack}{lack}^P$	$lackbox{}^P$
	49_static_instance‡	$\bigcirc^N$	$\bigcirc^N$	$\cap^N$	$\bigcirc^N$	lacksquare	$\cap^N$	$\bigcirc^N$	$ullet^P$
	50_throw_exception	$\bigcirc^N$	$\bigcirc^N$	$\cap^N$	$\cap^N$	$\cap^N$	$\cap^N$	$\bigcirc^N$	$ullet^P$
	51_catch_exception	$\bigcirc^N$	$\bigcirc^N$	$\cap^N$	lacksquare	lacksquare	$\cap^N$	$\cap^N$	$lackbox{}^P$
	52_try_catch_finally_first_ex	$  \bigcirc^N$	$lackbox{}^P$	$\cap^N$	$ullet^P$	lacksquare	$lackbox{}^P$	$ullet^P$	$ullet^P$
	52_try_catch_finally_second_ex <sup>N</sup>	$ullet^N$	$\bigcirc^P$	$lacksquare^N$	lacksquare	$\cap^P$	$\bigcirc^P$	$\bigcirc^P$	$ullet^N$
	53_track_error	$\bigcirc^N$	$lackbox{}^P$	lacksquare	lacksquare	$\bigcirc^N$	$\cap^N$	$ullet^P$	$\bullet^P$
	54_generators†	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$lackbox{}^P$	$\bigcirc^N$	$\cap^N$	$\bigcirc^N$	lacksquare
	55_goto	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bullet^P$
	56_exit	$\bullet^P$	$lacksquare{lack}{lack}{}^{P}$	$\bigcirc^N$	$\overset{\smile}{ullet}_P$	$lacksquare{lack}{lack}{P}$	$lacksquare^P$	lacksquare	P
	57_JS_redirect	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$
	58_simple_array_first_ex†	$\bigcap_{N}$	lacksquare	$lacksquare^P$	$lacksquare^P$	$\bigcirc^N$	$lacksquare^P$	$lacksquare{lack}{P}$	$\bigcap_{\bullet} P$
	58_simple_array_second_ex <sup>N</sup> †	lacksquare	N	lacksquare	lacksquare	lacksquare	$\bigcirc^P$	lacksquare	lacksquare
	50_smiple_array_second_ex						U -		

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Table IX continued from previous page

Tyma	Table IX continued from previous page	WAP	PROG	Diviv	RIPS	PHPS	TCII	WIID	Vome
Type	Testcases	$\bigcirc^N$	$\bigcirc^N$	$\begin{array}{ c c } \textbf{Pixy} \\ \bigcirc^N \end{array}$	RIPS P	$\bigcirc^N$	$\mathbf{TCH}$	$\frac{\text{WHIP}}{\bigcirc^N}$	Yama P
	59_foreach_with_array_first_ex†	$\bigcirc^N$	P	$\bigcirc^N$	P	$lackbox{O}^{r}$	$\bigcirc^N$	$\bigcap^{N}$	P
	59_foreach_with_array_second_ex†						O''		lacksquare N
	66_superglobals_first_ex <sup>N</sup>	$\bigcirc^P$	P	$lackbox{}^N$ $lackbox{}^P$	$lackbox{}^N$	$\bigcirc^P$	$lacksquare^N$	$\bigcirc^P$	
	66_superglobals_fourth_ex	$lackbox{\bullet}^P$				$\bullet_{N}^{P}$	$\bigcirc^N$	$ullet^P$	
	66_superglobals_second_ex	$\bigcirc_{N}^{N}$	$\bigcirc_{N}^{N}$	$lackbox{\bullet}^P_{_{N}}$	$ullet^P$	$\bigcirc^N$	$\bigcirc_{N}^{N}$	$\bigcirc^N$	$ullet^P$
	66_superglobals_third_ex <sup>N</sup> ¶	lacksquare	$ullet^N$	$ullet^N$	$ullet^N$	$\circ^P$	$ullet^N$	$ullet^N$	$ullet^N$
	79_dynamic_include_fifth_ex	$\bigcirc^N$	$lackbox{}^P$	$ullet^P$	$ullet^P$	$\bigcirc^N$	$\circ^N$	$ullet^P$	$ullet^P$
	79_dynamic_include_first_ex	$\circ^N$	$lackbox{}^P$	$lackbox{}^P$	$\bigcirc^N$	$\bigcirc^N$	$\circ^N$	$ullet^P$	$ullet^P$
	$16$ _variadic_functions $^{D4}$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$ullet^P$
	$17$ _get_arguments $^{D4}$	$\bigcirc^N$	$\bigcirc^N$	$\bullet^P$	$ullet^P$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$ullet^P$
	$18$ _send_unpack $^{D4}$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$ullet^P$	$\bullet^P$	$\bigcirc^N$	$\bigcirc^N$	$ullet^P$
	19_closures_first_ex <sup>D5</sup>	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$lackbox{}^P$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$ullet^P$
	19_closures_second_ex <sup>D5</sup>	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bullet^P$	$\bigcirc^N$	$\bigcirc^N$	$ullet^P$
	32_set_overloading <sup>D7</sup>	$\cap^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\cap^N$	$\bigcirc^N$	$\bigcirc^N$	$ullet^P$
	$33$ _get_overloading $^{D7}$	$\cap^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\cap^N$	$\bigcirc^N$	$\bigcirc^N$	$ullet^P$
	34_isset_overloading <sup>D7</sup>	$\cap^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	${}^ ^N$	$ullet^P$
	35_unset_overloading <sup>D7</sup>	$\bigcirc^N$	$\bigcirc^N$	$\cap^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$ullet^P$
	$36$ _call_overloading $^{D7}$	$\bigcirc^N$	$\cap^N$	$\bigcirc^N$	$\bigcirc^N$	$\cap^N$	$\bigcirc^N$	$\overset{\cup}{\bigcirc}^N$	$ullet^P$
	$37$ _callstatic_overloading $^{D7}$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$ullet^P$
	38_invoke <sup>ND7</sup>		$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	lacksquare
Ire	39_serialize_unserialize $^{D7}$	$\bigcirc^N$	$\bigcap_{\bullet} P$	$\bigcirc^N$	lacksquare	$\cap^N$	$\bigcirc^N$	$\overset{\smile}{ullet}_P$	lacksquare
c_natu	43_tostring_echo_object <sup>D7</sup>	$\bigcirc^N$	P	$\bigcirc^N$	$\bullet^P$	$\bullet^P$	$lacksquare^P$	lacksquare	$ ightharpoons^{P}$
	76_function_variable_first_ex <sup>D5</sup>	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$lackbox{}^P$	$\bigcirc^N$	P
l mi	76_function_variable_second_ex <sup>D5</sup>	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	lacksquare	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	P
	77_object_callable_first_ex <sup>D5</sup>	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	P
C2_Dynamic_nature	77_object_callable_second_ex <sup>D5</sup>	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	lacksquare	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	P
	77_object_canable_second_ex 79_dynamic_include_fourth_ex <sup>D2</sup>	lacksquare P	$\bigcap_{P}$	lacksquare P	$lackbox{\bullet}^P$	$\bigcirc^N$	$\bigcirc^N$	$lacksquare^P$	P
	79_dynamic_include_fourti_ex 79_dynamic_include_second_ex <sup>D2</sup> ¶	$\bigcirc^N$	P	$\bullet^P$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	P	P
	79_dynamic_include_second_ex = ¶ 79_dynamic_include_third_ex <sup>D2</sup>	lacksquare P	lacksquare	$lackbox{\bullet}^P$	lacksquare P	$\bigcirc^N$	$\bigcirc^N$	P	P
		$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	P
	81_new_from_variable_first_ex <sup>D6</sup>	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	lacksquare P	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^{N}$	P
	81_new_from_variable_second_ex <sup>D6</sup>	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	lacksquare P	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	P
	81_new_from_variable_third_ex <sup>D6</sup>	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcap_{P}$	$\bigcirc^N$	P
	82_methods_variable_first_ex <sup>D6</sup>	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	lacksquare P	$\bigcirc^N$	P	$\bigcirc^N$	P
	82_methods_variable_second_ex <sup>D6</sup>	O'V		O'V			P	$\bigcap_{P}^{N}$	lacksquare
	83_array_variable_key_first_ex <sup>D1</sup>	$\bigcirc^N$		$\bigcirc^N$	N	$\bigcirc^N$		lacksquare N	
	83_array_variable_key_second_ex <sup>ND1</sup>	lacksquare	_ NT		_	- N7	$\bigcirc^P$		lacksquare P
	83_array_variable_key_third_ex <sup>D1</sup>	$\bigcirc_{N}^{N}$	$\bigcirc_{N}^{N}$	$\bigcirc_{p}^{N}$	$\bigcirc_{N}^{N}$	$\bigcirc_{N}^{N}$		$\bigcirc_{_{\mathbf{N}}}^{N}$	_
	84_variable_variables_first_ex <sup>D1</sup>	$O_{R}^{N}$	$\bigcirc_{N}^{N}$	$\overset{\smile}{ullet}_{p}^{P}$	$\bigcirc_{_{D}}^{N}$	$O_{R}^{N}$	$\bigcirc_{p}^{N}$	$\bigcirc^N$	$lackbox{lack}{lack}^P$
	84_variable_variables_second_ex <sup>D1</sup>	$\bullet^P$	$\bigcirc^N$	$\bullet^P$	$\bullet^P$	$\bullet^P$	$\bullet^P$	$\bullet^P$	$ullet^P$
C3_Built-in_func	60_array_walk_first_ex	$\bigcirc_N^N$	$\bullet_{\scriptscriptstyle N}^P$	$\cap^N$	$lackbox{0.5}{P}$	$\bigcirc_{N}^{N}$	$\bigcirc_N^N$	$ullet^P$	$ullet^P$
	60_array_walk_second_ex	$\bigcirc_{N}^{N}$	$\bigcirc^N$	$\bigcirc_N^N$	$lackbox{\bullet}^P$	$\bigcirc_{N}^{N}$	$\bigcirc_{N}^{N}$	$\bigcirc^N$	$lackbox{lack}{lack}^P$
	61_array_map_first_ex	$\circ^N$	$\bigcirc^N$	$\circ^N$	$\circ^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$ullet^P$
	61_array_map_second_ex	$\circ^N$	$\bigcirc^N$	$\circ^N$	$ullet^P$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$ullet^P$
	62_parse_str_function	$\circ^N$	$\bigcirc^N$	$\bullet^P$	$ullet^P$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$ullet^P$
	62_parse_str_function_php8¶	$\bigcirc^N$	$\bigcirc^N$	$lackbox{}^P$	$ullet^P$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$ullet^P$
	63_substring_replace_function <sup>D3</sup>	$\cap^N$	$lackbox{}^P$	lacksquare	$ullet^P$	lacksquare	$lackbox{}^P$	$ullet^P$	$ullet^P$
	64_preg_match	$\cap^N$	$\bigcirc^N$	$lackbox{}^P$	$ullet^P$	$\cap^N$	$\bigcirc^N$	$\bigcirc^N$	$ullet^P$
	65_system_first_ex	$lackbox{}^P$	$lackbox{}^P$	$\cap^N$	$ullet^P$	$\cap^N$	$\bigcirc^N$	$ullet^P$	$ullet^P$
	65_system_second_ex	lacksquare	$lackbox{}^P$	$\cap^N$	lacksquare	$\cap^N$	$\bigcirc^N$	$ullet^P$	$ullet^P$
	65_system_third_ex	lacksquare	lacksquare	$\cap^N$	$\bullet^P$	$\cap^N$	$\bigcirc^N$	$lackbox{}^P$	$lackbox{}^P$
	67_odbc	$\bigcirc^N$	P	$\bigcirc^N$	$\bullet$ P	lacksquare	$\bigcirc^N$	lacksquare	lacksquare
	68_compact_first_ex¶	$\bigcirc^N$	$\bigcirc^N$	$\bullet^P$	P	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	P
	68_compact_second_ex	$\bigcirc^N$	$\bigcirc^N$	$lackbox{}^P$	$lackbox{}^P$	$\bigcirc^N$	lacksquare	$\bigcirc^N$	$\bullet^P$
	69_create_function	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	P
		$\bigcirc^N$	$\bigcirc^N$	lacksquare	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$lackbox{}^P$
L	70_extract	. O.,	I 0	•		L 0	0	5	•

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Table IX continued from previous page

Type	Testcases	WAP	PROG	Pixy	RIPS	PHPS	TCH	WHIP	Yama
	71_array_functions_first_ex	$\bigcirc^N$	$\bigcirc^N$	$\circ^N$	$\bigcirc^N$	$\bigcirc^N$	$lackbox{}^P$	$\bigcirc^N$	$lackbox{}^P$
	71_array_functions_second_ex	$\bigcirc^N$	$\bigcirc^N$	$lackbox{}^P$	$ullet^P$	$\circ^N$	$ullet^P$	$\bigcirc^N$	$ullet^P$
	72_procedural_queries_first_ex	$ullet^P$	$ullet^P$	$\bigcirc^N$	$ullet^P$	$ullet^P$	$ullet^P$	$ullet^P$	$ullet^P$
	72_procedural_queries_second_ex <sup>P</sup>	$ullet^P$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$ullet^P$	$ullet^P$	$ullet^P$	$ullet^P$
	72_procedural_queries_third_ex <sup>P</sup>	$ullet^P$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$ullet^P$	$ullet^P$	$ullet^P$	$ullet^P$
	73_wrong_sanitizer_first_ex	$\bigcirc^N$	$lackbox{}^P$	$ullet^P$	$ullet^P$	$ullet^P$	$ullet^P$	$ullet^P$	$ullet^P$
	73_wrong_sanitizer_second_ex	$ullet^P$	$ullet^P$	$ullet^P$	$ullet^P$	$ullet^P$	$\bigcirc^N$	$ullet^P$	$ullet^P$
	$74$ _dirname $^{D2}$	$\bigcirc^N$	$\bigcirc^N$	$ullet^P$	$ullet^P$	$\bigcirc^N$	$\circ^N$	$\bigcirc^N$	$ullet^P$
	75_buffer_first_ex <sup>N</sup> ¶	$\circ^P$	$\bigcirc^P$	$\bigcirc^P$	$\bigcirc^P$	$\bigcirc^P$	$\bigcirc^P$	$\bigcirc^P$	$ullet^N$
	75_buffer_second_ex¶	$ullet^P$	$ullet^P$	$ullet^P$	$ullet^P$	$ullet^P$	$ullet^P$	$ullet^P$	$ullet^P$
	78_autoloading_classes	$\bigcirc^N$	$lackbox{}^P$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$ullet^P$	$ullet^P$	$ullet^P$
	80_callback_functions_fifth_ex <sup>ND3</sup> ¶	$ullet^N$	$ullet^N$	$ullet^N$	$ullet^N$	$ullet^N$	$ullet^N$	$ullet^N$	$ullet^N$
	80_callback_functions_first_ex <sup>D3</sup>	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$ullet^P$
	80_callback_functions_fourth_ex <sup>ND3</sup> ¶	$ullet^N$	$ullet^N$	$ullet^N$	$ullet^N$	$ullet^N$	$ullet^N$	$ullet^N$	$ullet^N$
	80_callback_functions_second_ex <sup>D3</sup>	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$ullet^P$
	$80$ _callback_functions_third_ex $^{D3}$	$\bigcirc^N$	$\bigcirc^N$	$\circ^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$\bigcirc^N$	$ullet^P$