

Kingston Standardized Cognitive Assessment - revised + *DRIVING SCALE*

KSCAr^{+Drive} ASSESSMENT FORM

PATIENT NAME: _____ RATER: _____

DATE: _____ CASE #: _____

The KSCAr^{+Drive} ADMINISTRATION AND SCORING Manual,
should be used in conjunction with this form, and can be downloaded free of charge from:

www.kingstonscales.org or email: kscales@queensu.ca

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SCORING SUMMARY

NAME:	
CASEBOOK No.	
DATE:	
RATER:	

Sub-Test	Scores	Performance Comments	
1. Orientation /10			
3. a) Digits Forward /5			
3. b) Digits Backward /4			
4. Word Recall /10			
5. Visual Memory /6			
6. Word Finding /10			
7. Reading /3			
8. Abstract Thought /8			
9. Calculation /4			
10. Writing /4			
11. R/L Orientation /10			
12. Verbal Comprehension /10			
13. Delayed Word Recall /10			
14. Word Recognition /10			
15. Copying /4			
16. Spatial Reversal /5			
17. Ideomotor /3			
18. Clock Test /7			
19. Perseveration /2			
Sub-Totals		Normal %ile	Dementia %ile
Language /39			
Visual-Motor /31			
Memory /55			
Total Score /125			
KSCA Drive Score /47		FAIL ≤ 42	“GREY” 43-45
			PASS ≥ 46

For score percentile conversions see last 4 pages (34-37)

Name _____ Age _____ M F
 Date of Birth _____ Case No. _____
 (day / month / year)
 First Language _____
 Education: _____
 Last Occupation _____
 Patient Status: Inpatient _____ Consultation _____ Outpatient _____ Other _____
 Living Arrangement (If Not Inpatient): Alone _____ With spouse _____ Age peer _____
 With younger caregivers _____ Institution _____
 Present Assessment: Date _____ Time _____ a.m./p.m.
 (day/month/year)
 Place _____
 Examiner _____
 Lateral Dominance: Right _____ Left _____ Mixed _____ Unknown _____
 For This Exam: Was Vision Adequate Yes _____ No _____
 Was Hearing Adequate Yes _____ No _____
 Physical Handicaps: _____
 (Affecting Performance)

 Significant Meds: _____

OBSERVATIONS DURING EXAMINATION
 (normal response is larger and bolded)

BEHAVIOUR AT TIME OF EXAMINATION

OVERLY PERSISTENT	1	2	3	4	5	GIVES UP EASILY
UNCONCERNED	1	2	3	4	5	ANXIOUS
RELAXED			1	2	3	RESTLESS
FULLY ALERT			1	2	3	DEPRESSED LEVEL OF CONSCIOUSNESS
GOOD CONCENTRATION			1	2	3	EASILY DISTRACTED
COOPERATIVE			1	2	3	UNCOOPERATIVE
LANGUAGE USAGE						
ARTICULATION GOOD			1	2	3	ARTICULATION POOR
SPONTANEOUS SPEECH			1	2	3	SPEAKS ONLY WHEN SPOKEN TO
FLUENT SPEECH			1	2	3	NON FLUENT SPEECH
NORMAL SPEECH			1	2	3	PERSEVERATIVE SPEECH

RECORD ALL RESPONSES

1. ORIENTATION

"WHAT IS"	Responses and Observations		
1. "YOUR FULL NAME?" _____		0	1
2. "YOUR AGE?" _____		0	1
3. "YOUR BIRTH DATE?" _____		0	1
4. "WHERE ARE WE NOW?" _____		0	1
5. "WHAT CITY (TOWN OR VILLAGE) IS THIS?" _____		0	1
6. "WHAT DAY OF THE WEEK IS THIS?" _____		0	1
7. "WHAT MONTH IS THIS?" _____		0	1
8. "WHAT YEAR IS THIS?" _____		0	1
9. "WITHOUT LOOKING AT YOUR WATCH" (or THE CLOCK) WHAT IS THE TIME OF DAY?" _____		0	1
10. "WHAT IS THE SEASON?" _____		0	1
TOTAL _____		/10	

2. REMOTE MEMORY (Verify If Possible)

1. "WHERE WERE YOU BORN?" _____		0	1
2. "WHERE DID YOU GO TO SCHOOL?" _____		0	1
3. "WHAT WAS YOUR FATHER'S NAME?" _____		0	1
4. "WHAT WAS YOUR MOTHER'S NAME?" _____		0	1
5. "HOW MANY BROTHERS AND SISTERS DID YOU HAVE?" _____		0	1

3. DIGIT REPETITION

[1 digit/second, even tone of voice; record responses; administer Trial II only if patient fails Trial I; continue until both are failed]

a) Digits Forward

"I AM GOING TO SAY SOME NUMBERS. LISTEN CAREFULLY, AND WHEN I AM THROUGH, SAY THEM RIGHT AFTER ME."

- | | | |
|--------------------------------------|---|---------------|
| 1. Trial I: 3-7 _____ | | |
| Trial II: 5-2 _____ | 0 | 1 |
| 2. Trial I: 9-4-6 _____ | | |
| Trial II: 7-1-8 _____ | 0 | 1 |
| 3. Trial I: 2-5-8-1 _____ | | |
| Trial II: 4-7-3-2 _____ | 0 | 1 |
| 4. Trial I: 3-1-9-5-8 _____ | | |
| Trial II: 7-5-9-1-4 _____ | 0 | 1 |
| 5. Trial I: 5-3-7-2-8-6 _____ | | |
| Trial II: 7-1-8-5-6-9 _____ | 0 | 1 |
| | | |
| | | TOTAL _____/5 |

b) Digits Backward

"NOW I AM GOING TO SAY SOME MORE NUMBERS, BUT THIS TIME WHEN I STOP I WANT YOU TO SAY THEM BACKWARDS. FOR EXAMPLE, IF I SAY 7-1-9, WHAT WOULD YOU SAY?"

- | | | |
|------------------------------------|---|---------------|
| 1. Trial I: 2-4 _____ | | |
| Trial II: 5-8 _____ | 0 | 1 |
| 2. Trial I: 6-9-2 _____ | | |
| Trial II: 4-1-5 _____ | 0 | 1 |
| 3. Trial I: 8-3-7-1 _____ | | |
| Trial II: 4-9-8-6 _____ | 0 | 1 |
| 4. Trial I: 1-6-2-8-5 _____ | | |
| Trial II: 6-1-7-4-3 _____ | 0 | 1 |
| | | |
| | | TOTAL _____/4 |

4 . WORD RECALL

Use 10 word list (TABLE, FOOTBALL, WINDOW ... APPLE).
 USE A BLANK SHEET OF PAPER (i.e. page 7) TO COVER THE WORDS THAT YOU HAVE NOT YET PRESENTED. SLIDE THE PAPER DOWN THE LIST SEQUENTIALLY EXPOSING THE LIST ONE WORD AT A TIME.

Present each word for 2 seconds. Ask the subject to

“PLEASE READ ALOUD EACH WORD THAT I SHOW YOU.”

DO NOT TELL THE SUBJECT TO TRY AND REMEMBER THEM.

After presenting all 10 words, cover the list and ask the subject
“PLEASE TELL ME AS MANY OF THE WORDS FROM THAT LIST AS YOU CAN, IN ANY ORDER”

Score = number correct (max = 10).

TABLE	_____	FOOTBALL	_____	WINDOW	_____
ROSE	_____	COMPUTER	_____	GLOVE	_____
MOON	_____	FORK	_____	GOLD	_____
APPLE	_____				
				TOTAL	_____/10

5. VISUAL MEMORY [3 designs on 3 pages 10, 12, 14]

[Hand patient blank page and pencil with eraser]

"HERE IS A PIECE OF PAPER FOR YOU. I AM GOING TO SHOW YOU A FIGURE. I WOULD LIKE YOU TO STUDY IT FOR 10 SECONDS AND THEN I WILL TAKE IT AWAY AND I WANT YOU TO DRAW IT FROM MEMORY."

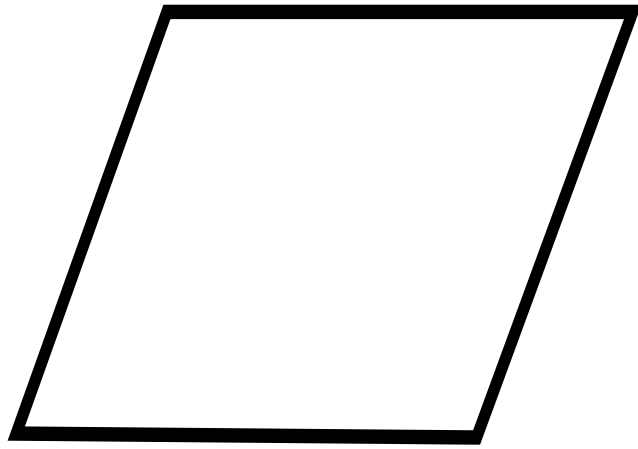
[Remove design after 10 secs; mark the top of the page as used by the patient; repeat instructions for each design as you hand patient another blank page]

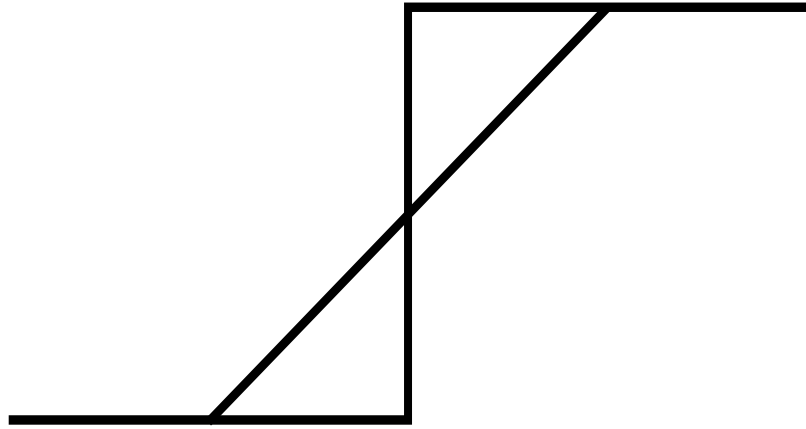
Design 1	_____	0	1	2
Design 2	_____	0	1	2
Design 3	_____	0	1	2
		TOTAL	_____/6	

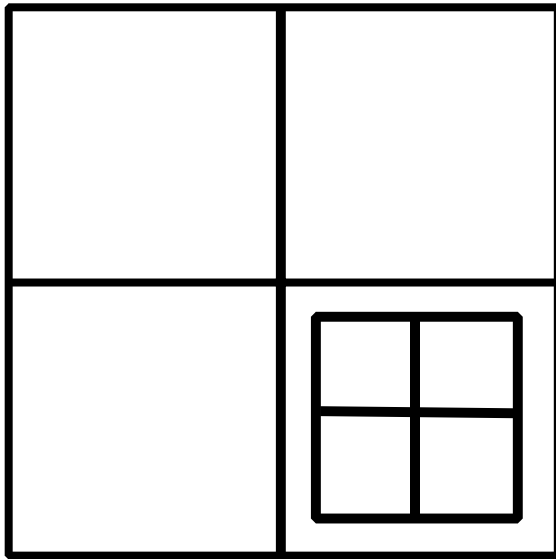
Note: Pages 9, 11, 13, and 20 are blank for subject responses.

USE THIS PAGE TO COVER WORD LIST

TABLE
FOOTBALL
WINDOW
ROSE
COMPUTER
GLOVE
MOON
FORK
GOLD
APPLE







6. WORD FINDING [2 picture pages (16, 17)]

Point to each of the pictures in turn **"TELL ME WHAT YOU CALL THIS"**

	SCORE	If Incorrect, Record Response
1. KITE	0 1	_____
2. BICYCLE	0 1	_____
3. SPADE (SHOVEL)	0 1	_____
4. FOOT	0 1	_____
5. BOTTLE	0 1	_____
6. UMBRELLA	0 1	_____
7. ELEPHANT	0 1	_____
8. CHIMNEY	0 1	_____
9. PEDAL (Use Pic 2)	0 1	_____
10. SPOKES (Use Pic 2)	0 1	_____
_____ →		TOTAL _____/10

7. READING COMPREHENSION [Story page (18)]

"NOW I WOULD LIKE YOU TO READ A SHORT STORY AND THEN I WILL ASK YOU SOME QUESTIONS ABOUT IT. PLEASE READ SO THAT I CAN HEAR YOU."

[Hand patient the story page; Patient must have story in their possession when answering questions; Tell patient to refer to text; note articulation!]

Mr. Davis had to go to Toronto. He decided to go by bus. His daughter drove him to the bus terminal, but on the way there they ran out of gas. However, they arrived at the terminal just in time for him to catch the bus.

[] Unable To Read

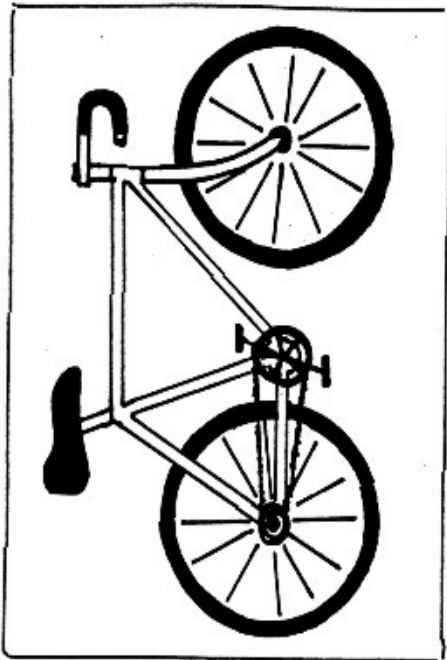
(If patient is unable to read, or does so with great difficulty, proceed to next task.)

"WHAT CITY WAS MR. DAVIS TRAVELLING TO?" _____ 0 1

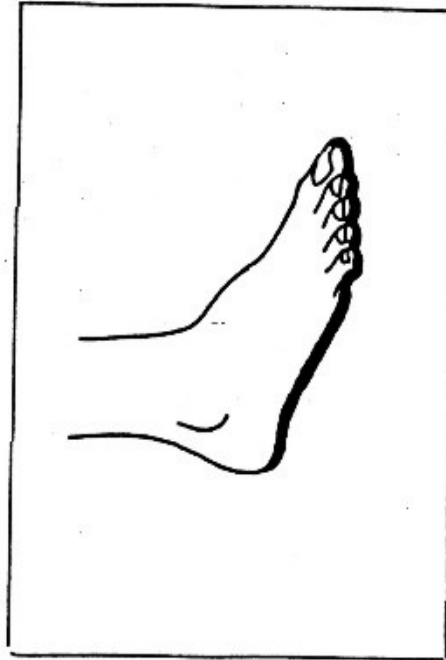
"HOW DID HE INTEND TO GET THERE?" _____ 0 1

"WHERE WAS HIS DAUGHTER DRIVING HIM?" _____ 0 1

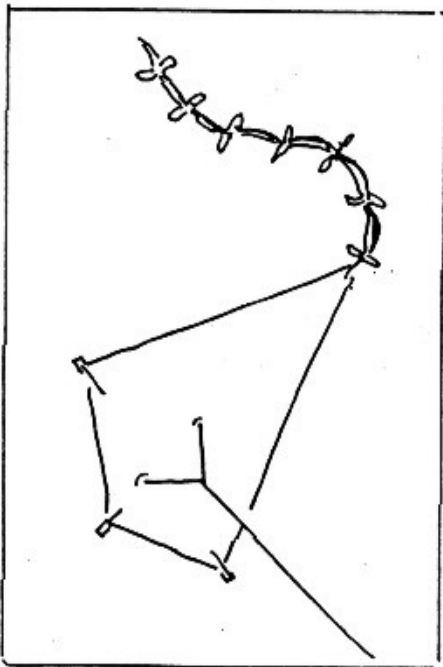
TOTAL _____/3



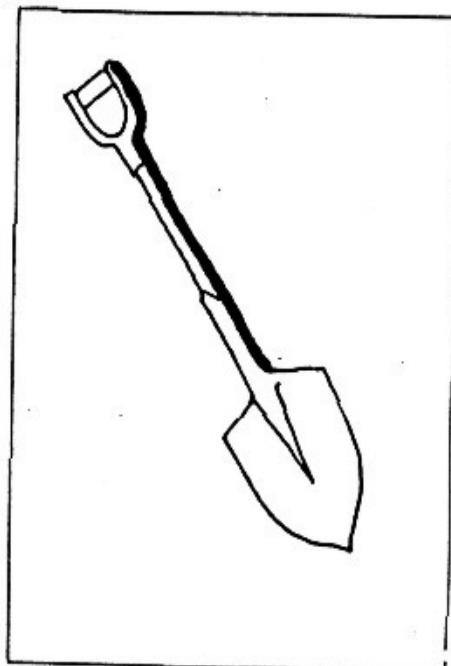
2



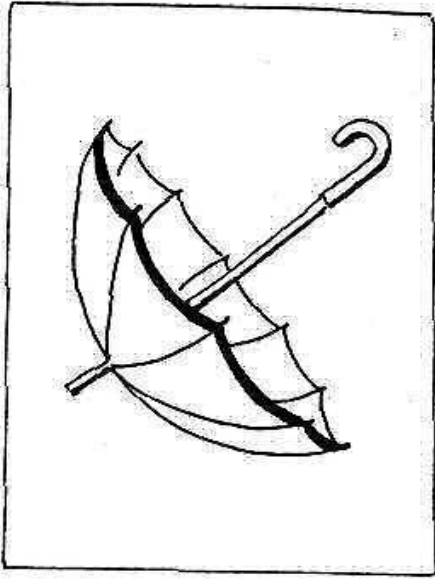
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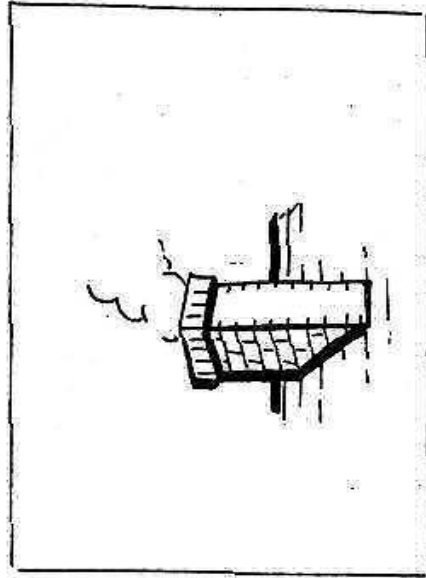
1



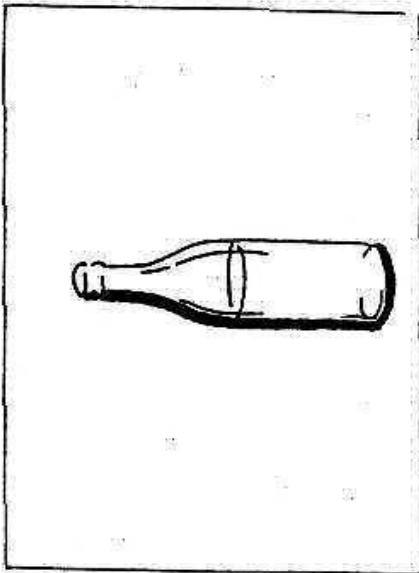
3



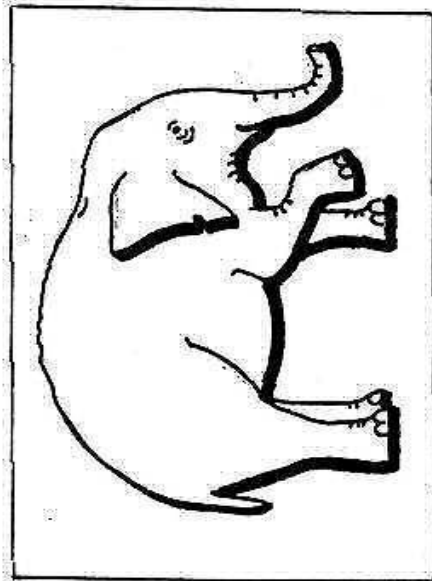
6



8



5



7

Mr. Davis had to go to Toronto.

He decided to go by bus.

**His daughter drove him to the
bus terminal, but on the
way there they ran out of gas.**

**However, they arrived at
the terminal just in time for
him to catch the bus.**

8. ABSTRACT THINKING [RECORD ALL RESPONSES]**1. "IN WHAT WAY ARE CARROTS AND BEANS ALIKE?"**

[If patient fails to give a 2 point answer, say "THEY ARE BOTH VEGETABLES"]

_____ 0 1 2

2. "IN WHAT WAY ARE A SHIRT AND A SWEATER ALIKE?"

[If patient fails to give a 2 point answer, say "THEY ARE BOTH ITEMS OF CLOTHING"]

_____ 0 1 2

3. "IN WHAT WAY ARE A DOG AND A COW ALIKE?" [No help]

_____ 0 1 2

4. "IN WHAT WAY ARE A CAR AND A BICYCLE ALIKE?" [No help]

_____ 0 1 2

TOTAL _____/8

9. CALCULATION**"I WANT TO ASK YOU A FEW MORE QUESTIONS: HOW MUCH IS"...**

1. **2 PLUS 4 (2 + 4) =** _____

0 1

2. **9 MINUS 2 (9 - 2) =** _____

0 1

3. **5 TIMES 5 (5 X 5) =** _____

0 1

4. **56 DIVIDED BY 7 (56 ÷ 7) =** _____

0 1

TOTAL _____/4

10. WRITING [Use blank page (20)]**"NOW I WOULD LIKE YOU TO WRITE SOMETHING "**a) **"FIRST YOUR NAME, PLEASE".**

0 1

b) **"AND NOW I WANT YOU TO WRITE: KINGSTON, ONTARIO, CANADA"***

[Repeat, if patient forgets it]

0 1 2 3

* use a more familiar local address (of similar length) if the patient is not from Kingston.

Note: Patient must write (i.e. use script) not print. If patients start to print, correct them, if they persist, score is 0.

TOTAL _____/4

(For Writing)

**11. RIGHT/LEFT ORIENTATION and
12. VERBAL COMPREHENSION**

NOTE: while Right/Left Orientation and Verbal Comprehension are run together as one task, they are scored separately as two distinct tasks. Ask the patient to

	R / L	Part
1. "TOUCH YOUR LEFT SHOULDER." _____	0 1	0 1
2. "TOUCH YOUR RIGHT ELBOW." _____	0 1	0 1
3. "TOUCH YOUR RIGHT EAR." _____	0 1	0 1
4. "TOUCH YOUR LEFT HAND." _____	0 1	0 1
5. "TOUCH YOUR RIGHT ANKLE." _____	0 1	0 1
6. "TOUCH YOUR LEFT KNEE." _____	0 1	0 1
7. "TOUCH YOUR LEFT THUMB." _____	0 1	0 1
8. "POINT TO MY LEFT HAND." _____	0 1	0 1
9. "POINT TO MY RIGHT ARM." _____	0 1	0 1
10. "POINT TO MY RIGHT ELBOW." _____	0 1	0 1

TOTAL Sub-Test 11 _____/10

TOTAL Sub-Test 12 _____/10

13. DELAYED WORD RECALL

**"PLEASE TELL ME AS MANY WORDS THAT YOU CAN REMEMBER FROM
THE LIST THAT I SHOWED TO YOU EARLIER, IN ANY ORDER"**

Score = number correct (max = 10).

TABLE _____	FOOTBALL _____	WINDOW _____
ROSE _____	COMPUTER _____	GLOVE _____
MOON _____	FORK _____	GOLD _____
APPLE _____		

TOTAL _____/10

14. WORD RECOGNITION

After completing the recall, show the subject the second list of 20 words [pages 23,24] (TABLE, HOUSE, BOWL, .. BIRD), point to the first word and say to the subject












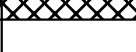




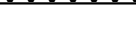



“DID YOU SEE THIS WORD ON THE LIST THAT I SHOWED TO YOU EARLIER OR IS THIS A NEW WORD?”

Repeat these instructions for the 2nd word. But for the 3rd word say **“HOW ABOUT THIS ONE?”**

For the 4th word onward, use either instruction as seems necessary.

After completing the 1st page go to the second one (GLOVE, KING)

Score = total number of correct responses i.e. IN/10 + NOT IN/10 = Total/20 ÷ 2 (max = 10).

	IN	NOT IN
TABLE		
HOUSE		
BOWL		
FOOTBALL		
WINDOW		
LAKE		
ROSE		
DRESS		
WHEAT		
COMPUTER		
GLOVE		
KING		
MOON		
CLOCK		
GIFT		
FORK		
GOLD		
STORE		
APPLE		
BIRD		

	IN	NOT IN
SCORE		
	/10	/10

TOTAL = _____ /20 ÷ 2 = _____ /10

**TABLE
HOUSE
BOWL
FOOTBALL
WINDOW
LAKE
ROSE
DRESS
WHEAT
COMPUTER**

**GLOVE
KING
MOON
CLOCK
GIFT
FORK
GOLD
STORE
APPLE
BIRD**

15. COPYING [2 design pages (26, 27)]**"HERE I HAVE A FIGURE FOR YOU TO COPY"** [avoid naming designs].

a.) [diamond]_____ 0 1 2

b.) [arrow]_____ 0 1 2

TOTAL _____/4

16. SPATIAL REVERSAL**"NOW I WANT YOU TO DRAW ANOTHER ONE LIKE THIS"** [point to arrow]**"BUT THIS TIME POINTING THE OPPOSITE WAY".** [avoid indicating direction]. 0 5

TOTAL _____/5

17. IDEOMOTOR1. **"SHOW ME HOW YOU WOULD STIR A CUP OF TEA"** _____ 0 12. **"SHOW ME HOW YOU WOULD HAMMER A NAIL"** _____ 0 13. **"SHOW ME HOW YOU WOULD BLOW OUT A CANDLE"** _____ 0 1

TOTAL _____/3

18. CLOCK [4 circle pages (28 - 31)]

[1st circle - blank]

"I WANT YOU TO WRITE IN THE NUMBERS, AS ON A CLOCK FACE." 0 1 2

[2nd circle - blank]

"ON THIS CIRCLE DRAW IN THE HANDS TO MAKE IT SAY 9 O'CLOCK." 0 1 2

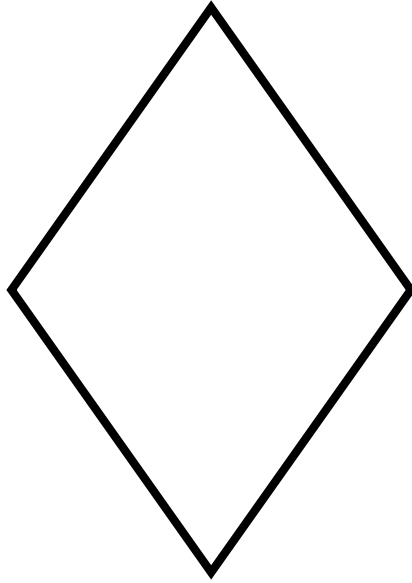
[3rd circle - numbered]

"NOW TRY THIS ONE. PUT IN THE HANDS FOR 5 PAST 10. MAKE IT SAY 5 PAST 10." 0 1 2

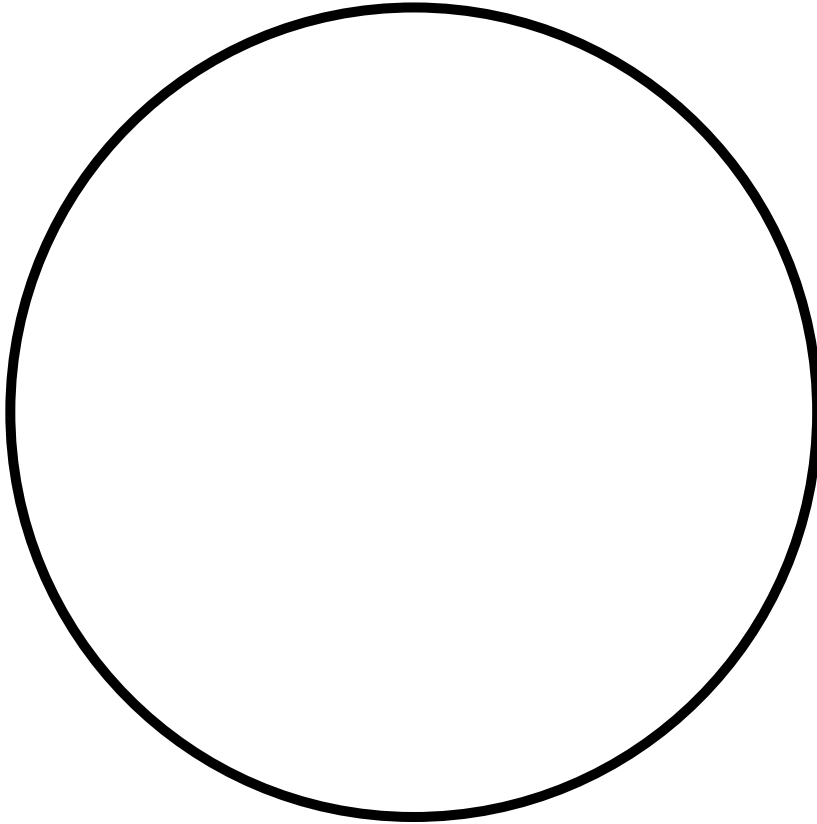
[4th circle - numbered and hands (20 past 8)]

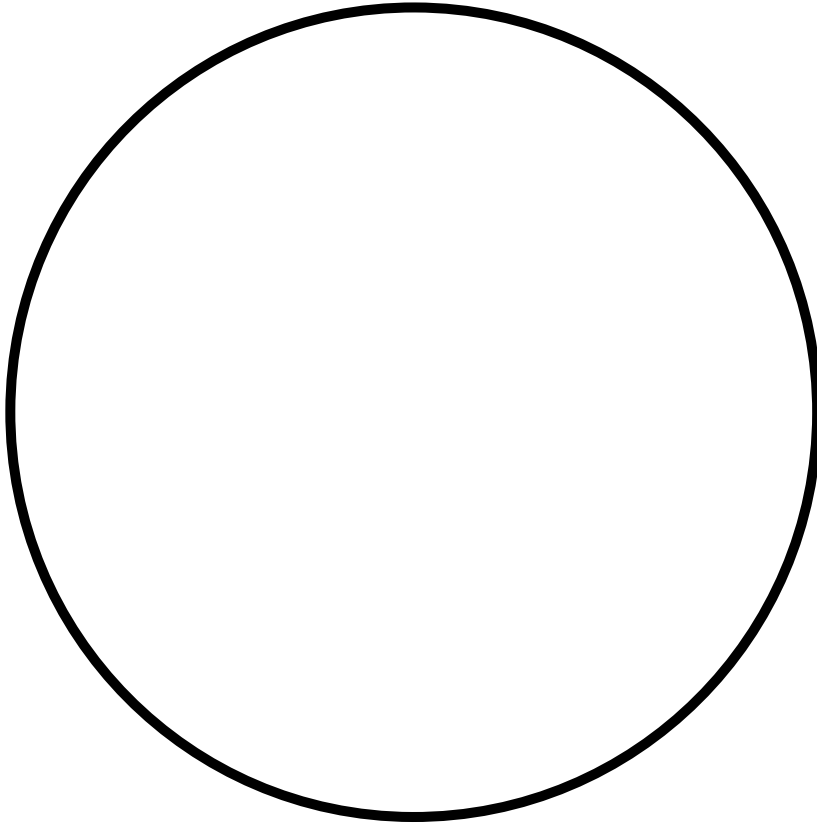
"WHAT TIME IS IT ON THIS CLOCK?" 0 1

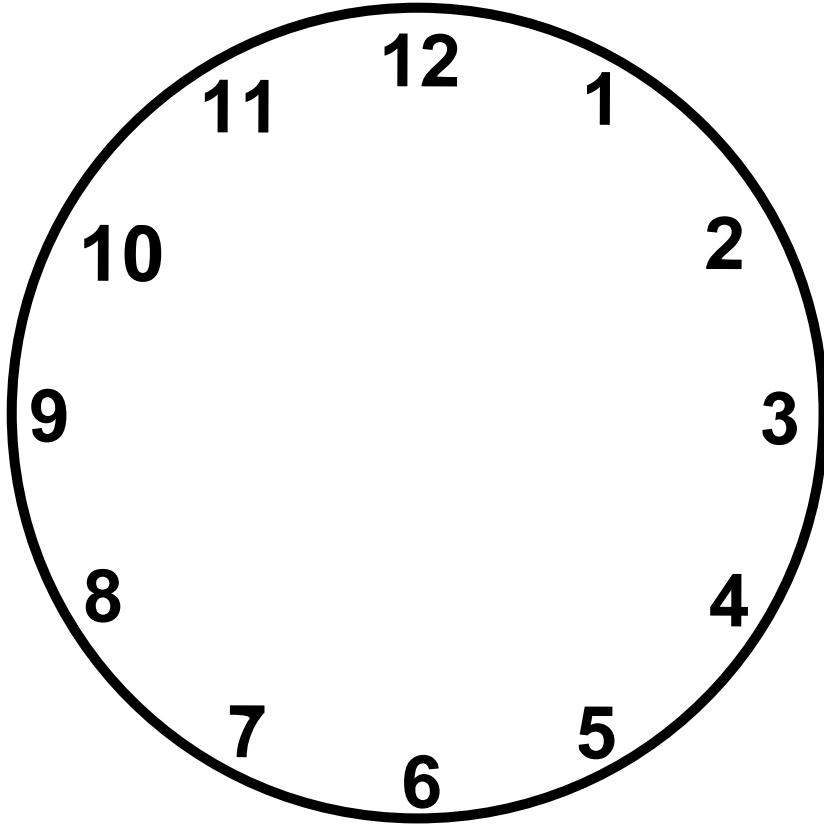
TOTAL _____/7

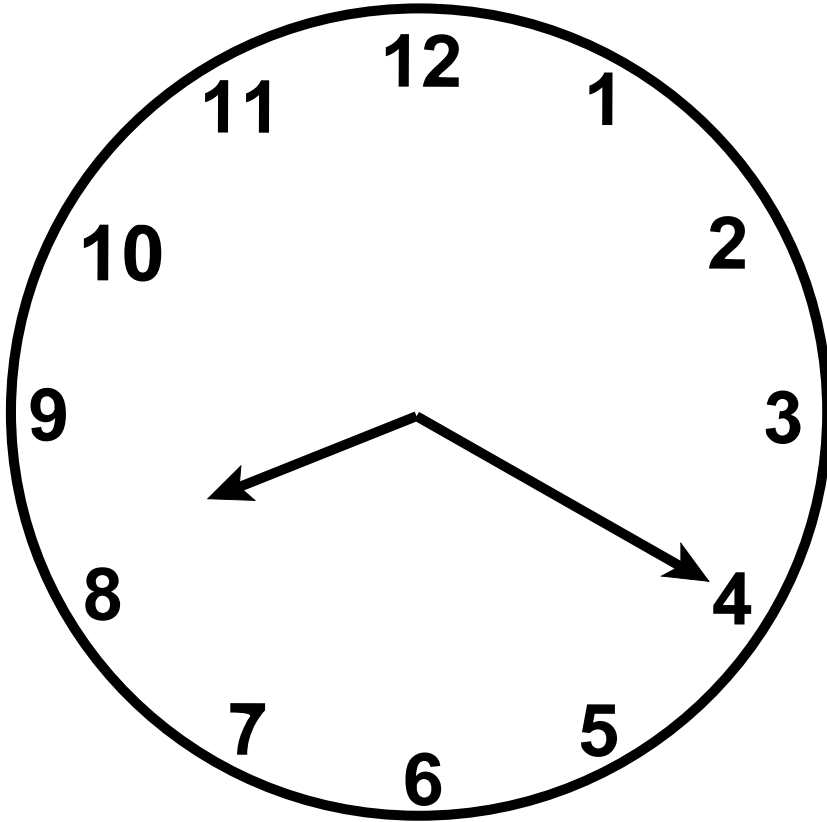












19. PERSEVERATIONa) *Motor Pattern:*

[Demonstrate touching table alternately first with palm of hand and then with fist on edge, i.e., thumb facing up. Movements should be alternated at a rate of not faster than one movement per ½ second and no slower than one movement per second. Have the patient copy your motions for 5 trials or until you are sure that the patient has learned the pattern.]
 If patient is unable to learn the task within 10 trials, discontinue and score 0.
 If patient has successfully learned the task, then say:

"I WANT YOU TO REPEAT THIS MOVEMENT ON YOUR OWN UNTIL I SAY 'STOP'."

[If patient is unable to do this after several attempts, say "STOP". Otherwise let him/her do at least five repetitions using his/her preferred hand.]

0 1

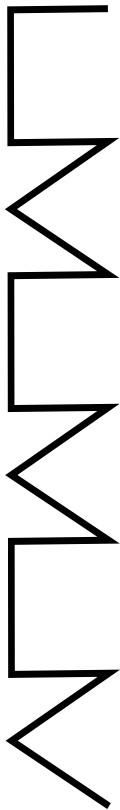
b) *Visual Pattern:* [sheet with pattern (page 33)]

"I WANT YOU TO COPY THIS PATTERN. START COPYING BELOW THE EXAMPLE, AND THEN CONTINUE IT TO THE END OF THE PAGE. START HERE"

[Point to the space below the pattern. Encourage patient to continue to right margin of page, such that the design is not just copied, but repeated twice. If patient makes an error while copying the pattern (but not while continuing it) draw it to the patient's attention the first time and refer back to the pattern. After this, no further help.]

0 1

TOTAL ____/2

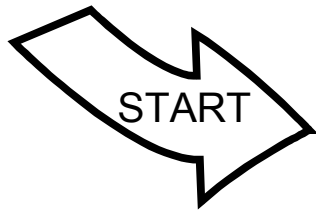


SCORE ANALYSIS Page 1

(See Adm & Scoring Manual)

NORMALS

TOTAL SCORE	PERCENTILES	RANGE
123	98	
118	95	↑
117	91	A
116	88	V
115	86	G
114	80	
113	75	A
112.5	68	V
112	61	E
111	54	R
110.5	50	A
110	44	G
109	32	E
108.5	26	
108	20	↓
107	14	A
106	12	V
105	5	G
104	2	



STEP 1:
Previous Level?

WHAT LEVEL DID THE PATIENT FUNCTION AT PREVIOUSLY?

Above Avg ___

Average ___

Below Avg ___

USING THE CHART FOR NORMALS (right), CIRCLE THE PATIENT'S TOTAL SCORE AND READ THE PERCENTILE AND RANGE THAT THE SCORE FALLS IN.

Percentile ___

Range: Above Avg ___

Average ___

Below Avg ___

STEP 2:
Compare to Normals

STEP 3: Is there evidence of decline?

IS THERE A DIFFERENCE BETWEEN THE PATIENT'S SCORE AND YOUR PREMORBID ESTIMATE?

NO

STOP!

THE PATIENT'S SCORE IS IN THE ESTIMATED RANGE (or Higher). NO FURTHER ANALYSIS IS REQUIRED. THEREFORE, SIGNIFICANT ORGANIC BRAIN DAMAGE IS UNLIKELY.

YES

FURTHER ANALYSIS IS REQUIRED. GO TO STEP 4 ON NEXT PAGE

KSCAr^{+Drive} SCORE ANALYSIS Page 2

DEMENTIA

STEP 4: What is the degree of decline?

USING THE CHART FOR DEMENTIA (right),
CIRCLE THE PATIENT'S TOTAL SCORE AND READ THE PERCENTILE AND RANGE.

Percentile _____

Range: Mild _____
Moderate _____
Severe _____



GO TO NEXT PAGE

TOTAL SCORE	PERCENTILES	RANGE
105	95	MILD
103	91	
102	88	
100	84	
98	78	MODERATE
96	73	
94	65	
93	61	
91	54	
89	50	
87	44	
85	39	
83	34	
82	30	
80	26	SEVERE
77	20	
74	11	
72	10	
68	8	
62	5	

KSCAr^{+Drive} SCORE ANALYSIS Page 3

DEMENTIA

SUB-TOTAL SCORES

Language Visual-Motor Memory

STEP 5: Which area(s) are most affected?



CIRCLE THE 3 SUB-TEST SCORES ON THE CHART TO THE RIGHT. OBTAIN LEVELS AND DESCRIPTIONS FOR EACH.

LANG	VIS-MOT	MEM
%ile _____	_____	_____
(Circle One)	(Circle One)	(Circle One)
Unimp*	Unimp*	-
Mild	Mild	Mild
Mod	Mod	Mod
Severe	Severe	Severe

* Unimpaired

Language			Visual-Motor			Memory		
Score	Percentiles	Range	Score	Percentiles	Range	Score	Percentiles	Range
39	95 ↑	UNIMPAIRED	31	95 ↓	UNIMPAIRED	38	98	MILD
	78 ↓			86			96	
	75 ↓			79			92	
38	65 ↓	MILD	29	68	MILD	35	86	MILD
	61 ↓			66			83	
	50 ↓			62			77	
37	50 ↓	MILD	26	59	MODERATE	34	75	MODERATE
	42 ↓			50			68	
	36 ↓			42			64	
36	42 ↓	MODERATE	24	42	MODERATE	32.5	60	MODERATE
	36 ↓			37			56	
	30 ↓			36			46	
35	36 ↓	MODERATE	22	36	MODERATE	31	46	MODERATE
	30 ↓			29			39	
	23 ↓			23			26	
34	30 ↓	MODERATE	21	29	SEVERE	30	39	SEVERE
	23 ↓			23			26	
	15 ↓			15			23	
33	23 ↓	SEVERE	19	15	SEVERE	28	23	SEVERE
	15 ↓			12			15	
	8 ↓			12			15	
32	8 ↓	SEVERE	18	12	SEVERE	27	15	SEVERE
	7 ↓			9			10	
	5 ↓			9			7	
31	7 ↓	SEVERE	17	9	SEVERE	25	7	SEVERE
	5 ↓			5			7	
	2 ↓			3			6	

KSCAr^{+Drive} SCORE ANALYSIS Page 4

SCORE	% PASSED Road Test	% FAILED Road Test
47	100	0
46	83.3	16.7
45	71.4	28.6
44	50.0	50.0
43 *	not-computed	not-computed
≤42	0	100

* As only 1 person in the sample scored 43, and passed the road test, the percentages passed/failed were not calculated for this table.