Revision 7/2/02
MEASURING WRAVMA DRAWING DESIGNS WITH SCORING TEMPLATES

-these suggested criteria supplement the criteria in the WRAVMA manual

*Note item designs depicted here are representational and not accurate – use designs in manual for reference

#4

-straight according to Set B
-within 20° of the horizontal

#5

-no overshoot greater than 10 mm
-no gap greater than 5 mm

#6

-line within 20° of the horizontal
-line within 20° of the vertical
-no overshoots greater than 3 mm

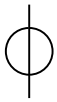
#7

-straight according to Set B **(don't use the shortest line in Set B)**
-no gap or overshoot greater than 5 mm

#8

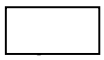
-neither line comes within 20° of the horizontal or vertical **(lines should be continuous without gaps exceeding 1 mm)**

#9



-a. Circle/ellipse needs to be closed
-no gap greater than 2 mm
-no overshoot greater than 2 mm
-b. Line within 20° of the vertical
-both ends of the bisecting vertical line extend beyond the line defining the circle
-c. Measure by 'mm's' and decide middle third
-d no overshoot greater than 3 mm

#10



-a. Straight according to Set B **(don't use shortest line in Set B)**
-b. The longer line of the two parallel lines is less than 1.5 times the length of the shorter parallel line
-d. Measure and compare width and height
-gap not greater than 2 mm
-overshoot not greater than 3 mm

#11

-a. Neither line is within 15° of the vertical for entire length **or within 20º of horizontal for entire length**
- the longer line is less than 1.5 times the length of the shorter line

-b. No overshoots greater than 2 mm
-c no gap greater than 1 mm

#12

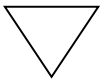
-a. No straightness**: Holding the 3rd shortest line of Set B horizontal with respect to the figure, no portion of the lines defining the top and bottom of the oval should be entirely within the shaded area (i.e., the whole length of the shaded area).**

-b. Orientation: draw the bisector of the oval's major axis (which should be horizontal) and measure its angle relative to the horizontal. The angle between the bisector and horizontal orientation should be within 20°

-gap and/or overshoot not greater than 2 mm

-**the length of the figure's longer axis should be more than 1.5 times the length of the shorter axis**

#13



- a. Straight according to Set B **(don't use shortest line in Set B)**
- the longest line is less than 1.5 times the length of the shortest line

-b. Triangle sides oblique – not within 1**5**° of the vertical

-c. Top side of triangle within 15° of the horizontal (the horizontal is measured by starting at the top angle)

-gap and/or overshoot not greater than 2 mm

#14

-a. For circle: the longer axis through the middle of the figure is less than 1.5 times the length of the shorter axis

-no gaps

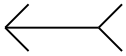
-b. **Using the shortest line of Set B that fits (again don't use the shortest line in Set B), both lines must lie completely within the shaded area**

-c. To be oblique: not within 15° of the vertical **or within 15º of horizontal**

-no overshoots greater than 2 mm

-no gaps **greater than 1 mm**

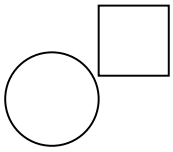
#15



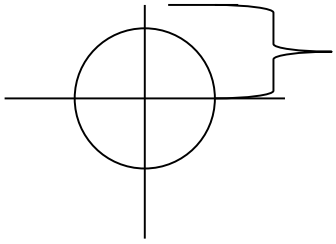
-a. Line within 20° of the horizontal (the horizontal is measured from the end of the line)

-b. No gap (Gap is considered **any white** space **greater than 2 mm** between the tip or tail **<u>or</u> between the horizontal line and the point of the tip or tail**
and the line)
-in terms of 'not rounded', the two lines should meet at an angle
-c. The longest line is less than **2** times the length of the shortest line

#16



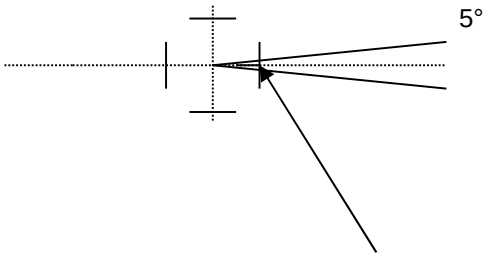
-a. To equal in size: measure the maximum diameter of the circle (the major axis if an ellipse) and the longest side of the square - the length must be less than 1.5 times the length of the shortest length
-square considered 'diamond' if bottom of the square is more than 20° from the horizontal where the square touches the arc
-b. For circle: no gap or overshoot greater than 2 mm (For determining between circle and ellipse – figure is circular rather than oval (the longer axis through the middle of the figure is less than 1.5 times longer than the shorter axis)
-c. For square: the longest line is less than 1.5 times the length of the shortest line
-for right angles: no angles are less than 80° or greater than 100°
-no gap/overshoot for square greater than 2 mm
-d. Square touches arc within 90° of the upper right quadrant (See below) **(the entire angle of the square must touch the circle within this quadrant)**



Touches in this area

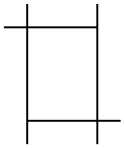
#17

-a. Any portion of a line does not deviate more than 10° from the vertical
-b. The longest distance is less than 1.5 times the length of the shortest distance – measure horizontally across the lines from the first to the third line with the ruler where the lines are closest together
-c. Imaginary line is not more than 5 degrees* from the horizontal which is measured from the bottom tip of the first line (imaginary base line must include the lowest point of each line)
*For this item start the angle measurement at the 5-mm hash mark instead of the center intersection on the template due to the imaginary baseline in the fourth design in the 'Acceptable' column



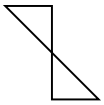
Start at the 5-mm hash mark indicated where the vertical line meets the dashed horizontal line

#18



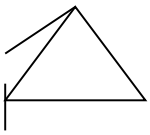
-a. Measure the sides
-b. Horizontal lines: straight according to Set B
-the longest line is less than 1.5 times the length of the shortest line (any overshoot of the horizontal line is not considered part of the length)
-c. Vertical lines: straight according to Set B
-the longest line is less than 1.5 times the length of the shortest line
-d. No overshoots greater than 1 mm since the third and fourth designs in the 'Acceptable' column have slight overshoots

#19



-a. For equal size: at the intersection of the two triangles, for both the vertical line and oblique line, a longer line length on one side of the intersection is less than 1.5 times a shorter line length on the other side of the intersection
-for right triangles: no angles at perpendicular endpoints of horizontal are less than 80° or greater than 100°
-b. Vertical line is not more than 10° from the vertical axis
-c oblique and vertical lines are continuous without overshoots or gaps greater than 1 mm

#20



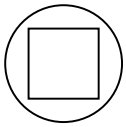
-a. The longest line is less than 1.5 times the length of the shortest line
-the base is within 5° of the horizontal (**measuring from the hash mark of the template)**
-b. The perpendicular line in not more than 15° from the vertical
-c. No overshoot and/or gap is greater than 1 mm since the third design in the 'Acceptable' column shows slight overshoots

#21

-a. Triangle: the longest line is less than 1.5 times the length of

the shortest line
-b. The **common** border **and the two vertical lines are** no more than 10° from the vertical
-c. Vertical lines: the longest line is less than 1.5 times the length of the shortest line
-d. No overshoot and/or gap is greater than 1 mm since the second design in the 'Acceptable' column shows slight overshoots

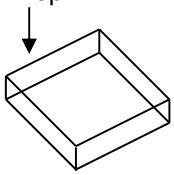
#22



-a. To be circular: the longer axis through the middle of the figure is less than 1.5 times the length of the shorter axis
-no gap and/or overshoot is greater than 2 mm
-b. For square: the longest line is less than 1.5 times the length of the shortest line
-for right angles: no angles are less than 80° or greater than 100°
-c. No gap and/or overshoot greater than 1 mm since the second and third designs in the 'Acceptable' column shows slight gaps and overshoots

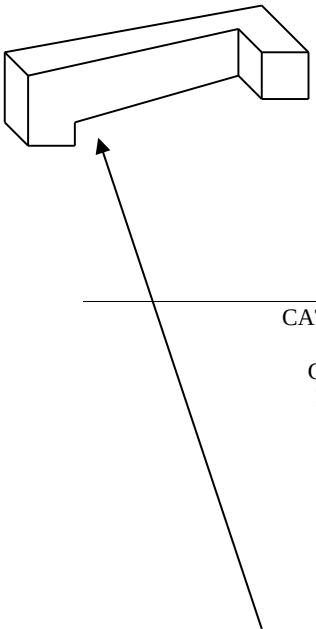
#23

Top



-a. The longest line (either 'box') is less than 1.5 times the length of the shortest line of either 'box'
-for angles, none of the angles are less than 80° or greater than 100°
-b. Connectors: the longest line is less than 1.5 times the length of the shortest line
-c. Oblique: left top of both squares must be 5° or more away from the horizontal
-d. No gaps and/or overshoots greater than 1 mm since the third design in the 'Acceptable' column has slight overshoot

#24



-a. Five planes present
-b. No overshoots and/or gaps greater than 1 mm since both figures in the 'Acceptable' column have slight gaps
-c. For square: the longest line is less than 1.5 times the length of the shortest line
-for right angles: no angles are less than 80° or greater than 100°
*ISSUE with 'one apparent square and 2 clear rhombuses present' – by definition a rhombus is supposed to have equal sides (a square can be a rhombus and a parallelogram) - of the two other parallelograms (beside the square) present in the depicted design, only one would be considered a rhombus since

the other has four sides that are not equal. Per David Bellinger, we will look for '2 clear other parallelograms besides the square' as opposed to '2 clear rhombuses'. **For each parallelogram, no angle can be between 80º and 100º**
-d. Figure elevated 10° or more to the right
-measure this by the lower slanted line of the figure (the one that is almost 3 cm long in the WRAVMA manual) – start at the point where the lower part of the line meets the vertical line at a right angle

Measure from the angle from where the lower part of the slanted line meets the vertical line.

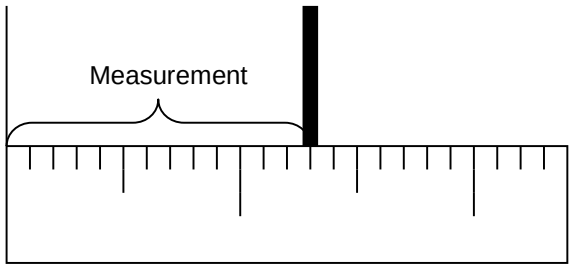
Answers to general questions about the criteria:

1) Overshoots are not measured as part of the line.

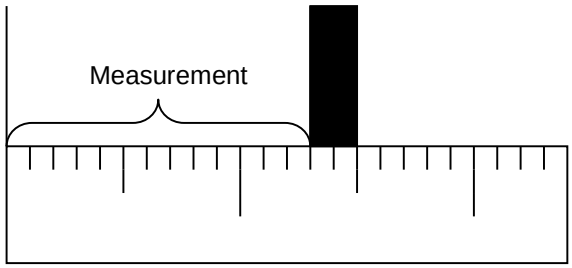
2) In terms of the question of whether or not 'width of the line' is included when measuring:

a. The 'mm' lines of the ruler should be aligned with the vertical lines when measuring distance between two lines. If the second vertical line (endpoint) does not align exactly with a 'mm' line then it should be to the closest 'mm' line. SEE EXAMPLE BELOW
b. In a case where a child draws a vertical line that has a width that is more than 1 mm then the whole width should not be included in that measurement. SEE EXAMPLE BELOW

a.

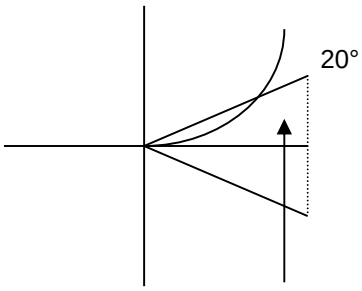


b.

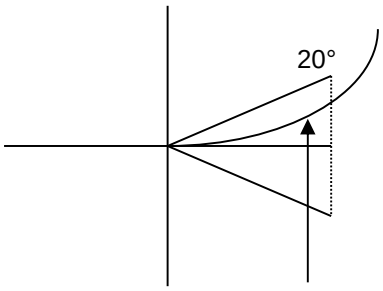


3) In terms of measuring horizontal/vertical orientation, this should be done according to the page. Since the children are required to draw the shapes in the designated squares in the WRAVMA drawing booklet, horizontal orientation would correspond to the top and bottom lines of the square and vertical orientation would correspond to the side lines of the square.

4) When determining the angle of a line, the entire line should be within the angle, not just its' endpoint. The line should fall within the shaded portion on the designated angle on the template. If the length of a line drawn is longer than the shaded portion of the angle depicted then the line would pass as long as the beginning part of the line falls within the shaded part of the angle. SEE EXAMPLES BELOW FOR PASSING AND FAILING



Shaded portion of angle
FAILS



Shaded portion of angle
PASSES

5) The width of the line is not included when measuring overshoots and 90º angles.