Draw a Dream Catcher: Ring, Web, and Feathers

Original tasks 1, 2, 3 / complete keys

Task 1

A drawing has a ring diameter of 12 cm and 6 web anchors. What is the angle between neighboring anchors? Show your arithmetic.

Answer: 60 degrees.

Reason: A full circle is 360 degrees. With 6 evenly spaced anchors, divide 360 by 6: 360 / 6 = 60 degrees.

Check: Multiply the angle by the number of anchors: 60 x 6 = 360 degrees, which confirms even spacing.

Task 2

A dream catcher has 5 feathers with hanging lines of 3 cm, 4 cm, 5 cm, 4 cm, and 3 cm. What is the total length of hanging line used?

Answer: 19 cm.

Reason: Add the lengths: 3 + 4 + 5 + 4 + 3 = 19 cm.

Check: Add in a different order, for example 5 + 4 + 4 + 3 + 3 = 19 cm, to confirm the total.

Task 3

On a 20 cm by 25 cm sheet, a ring of 10 cm diameter is placed with its center 8 cm from the top. How much vertical space remains below the ring for feathers? Use the bottom of the ring as the reference.

Answer: About 12 cm.

Reason: The ring radius is 10 / 2 = 5 cm. The bottom of the ring is 8 + 5 = 13 cm from the top. The sheet height is 25 cm, so space below is 25 - 13 = 12 cm.

Check: Add the space below to the bottom position: 12 + 13 = 25 cm, which matches the sheet height.

Draw a Dream Catcher: Ring, Web, and Feathers

Original tasks 4 / complete keys

Task 4

A drawing uses 12 web anchors. If you add a second layer connecting midpoints between anchors to an inner circle, how many midpoint connections are there?

Answer: 12 midpoint connections.

Reason: There is one midpoint between each pair of neighboring anchors. With 12 anchors around a closed ring, there are 12 such gaps, so 12 midpoint connections.

Check: Count the gaps around the ring: each anchor has one gap to its right, and the last anchor connects back to the first, giving 12 gaps.

Draw a Dream Catcher: Ring, Web, and Feathers

Source rubric / reflection

- [ ] Ring is circular and clearly drawn; diameter is measurable.
- [ ] Web anchors are even in number and spacing; lines connect to center or inner circle without random crossing.
- [ ] Feathers hang from the lower half; number is odd and placement is symmetric.
- [ ] Each feather has a visible shaft and side barbs; sizes are within the allowed range.
- [ ] Overall layout fits the page and leaves room for hanging lines.
- [ ] Valid alternatives in anchor count, feather shape, and line style are accepted if structure and spacing are clear.

Reflection: What did you check, what did you change, and what will you try next?