

Shy Dog (NAEP Grade 4)

Kylena made a design from three paper triangles and called it a "shy Dog."

Each dog design used 1 piece labeled *T* and 2 pieces labeled *X*. It looked like this.

How many of each of the pieces would she need to make 26 shy dog designs?

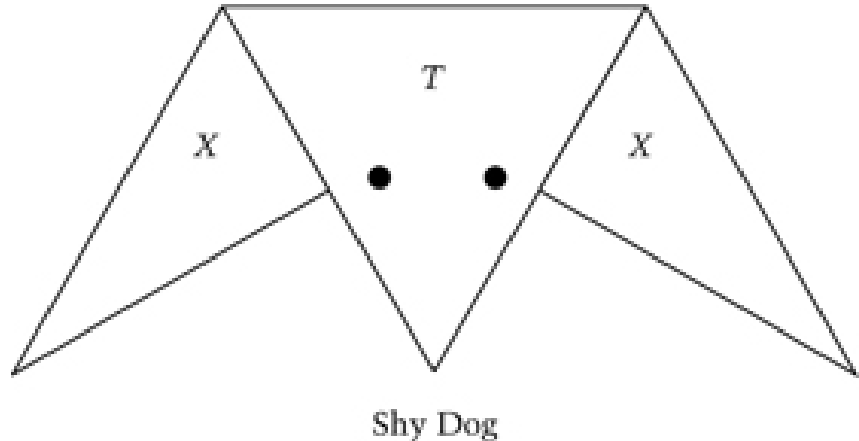
Piece *T*

Piece *X* _____

If Kylena had only 11 pieces labeled *T* and only 15 pieces labeled *X*, how many shy dog designs could she make?

Answer: _____

Use drawings, words, or numbers to explain how you found the number of shy dog designs she could make.



Shy Dog Explanation

Kylena could make 7 shy dogs with the pieces she has. She needs 2 X's for each dog.
 $15 \div 2 = 7.5$ so there are only enough X's for 7.

NAEP Scoring Rubric

| Performance Level | Description |
|-----------------------|---|
| Extended 4 | Both Part are correct and explanation is complete. There are enough T's for more than 7. |
| Satisfactory 3 | Both parts correct, but explanation is incomplete. OR Has 52 for piece X but piece T is <u>incorrect</u> and has 7 for part B and explanation is completely correct. OR Part A completely correct and explanation completely correct but does not answer 7 for part B. |
| Partial 2 | Part A is completely correct and there is some correct work in the explanation, but does not have 7 on answer line. OR Shows three answers 26, 52, and 7 with no explanation. OR Part A is <u>incorrect</u> and part B is correct and explanation is completely correct |
| Minimal 1 | Has part A correct OR Answers 7 for part B with no explanation, incorrect explanation or incomplete explanation. OR Answers 52 for piece X (and number for piece T is <u>incorrect</u> or missing). OR Explanation completely correct with no other correct work |
| Incorrect 0 | Incorrect response |

Scoring Commentary for Shy Dog (Grade 4)

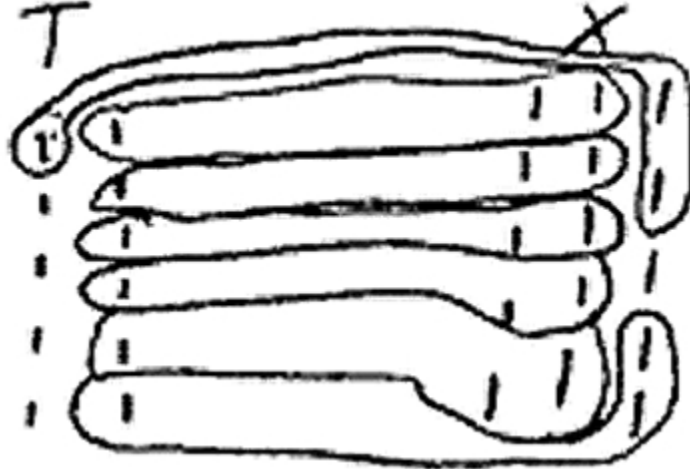
| Student Work Sample | Commentary |
|---------------------|---|
| One | Extended 4 This response had the correct number of Piece <i>T</i> and the correct number of Piece <i>X</i> . It also had the correct answer of 7 for the number of shy dog designs that could be made, and provided a complete explanation. |
| Two | Satisfactory 3 This response had the correct number of pieces for both <i>T</i> and <i>X</i> and the correct number of shy dog designs that could be made, but it had incomplete explanations. |
| Three | Partial 2 This response had the correct number of pieces for both <i>T</i> and <i>X</i> and some correct work in the explanation, but it did not have the correct number of shy dog designs that could be made. |
| Four | Satisfactory 3 This response had the correct number of pieces for both <i>T</i> and <i>X</i> and the correct number of shy dog designs that could be made, but it had incomplete explanations. |
| Five | Minimal 1 This responses had the correct number of pieces for both <i>T</i> and <i>X</i> only. |
| Six | Minimal 1 This responses had the correct number of pieces for both <i>T</i> and <i>X</i> only. |
| Seven | Extended 4 This response had the correct number of Piece <i>T</i> and the correct number of Piece <i>X</i> . It also had the correct answer of 7 for the number of shy dog designs that could be made, and provided a complete explanation. |
| Eight | Partial 2 This response had the correct number of pieces for both <i>T</i> and <i>X</i> and some correct work in the explanation, but it did not have the correct number of shy dog designs that could be made. |

Use drawings, words, or numbers to explain how you found the number of shy dog designs she could make.

Piece T 26
 Piece X 52

Answer: 7

Correct response



Satisfactory

Both parts correct, but explanation is incomplete.

OR

Has 52 for piece X but piece T is incorrect and has 7 for part B and explanation is completely correct

Use drawings, words, or numbers to explain how you found the number of shy dog designs she could make.

Piece T 26
 Piece X 52

$$\begin{array}{r} 26 \\ \times 2 \\ \hline 52 \end{array}$$

Part A is completely correct and there is some correct work in the explanation, but does not have 7 on answer line.

OR

Shows three answers 26, 52, and 7 with

OR

Part A is incorrect and part B is correct.

$$\begin{array}{r} 7 \\ \times 2 \\ \hline 14 \end{array}$$

rect.

Minimal

Use drawings, words, or numbers to explain how you found the number of shy dog designs she could make.

Piece T 26
Piece X 52

Answer: 11

$$\begin{array}{r} 7R1 \\ 2 \overline{)15} \\ \underline{14} \\ 01R1 \end{array}$$

Kylena
can make 11 shy
dogs and 1 labeled X
piece will be left
over

Student Three

Use drawings, words, or numbers to explain how you found the number of shy dog designs she could make.

Piece T 26
Piece X 52

$$\begin{array}{r} 26 \\ \times 2 \\ \hline 52 \end{array}$$

Answer: 7

$$\begin{array}{r} 7 \\ \times 2 \\ \hline 14 \end{array}$$

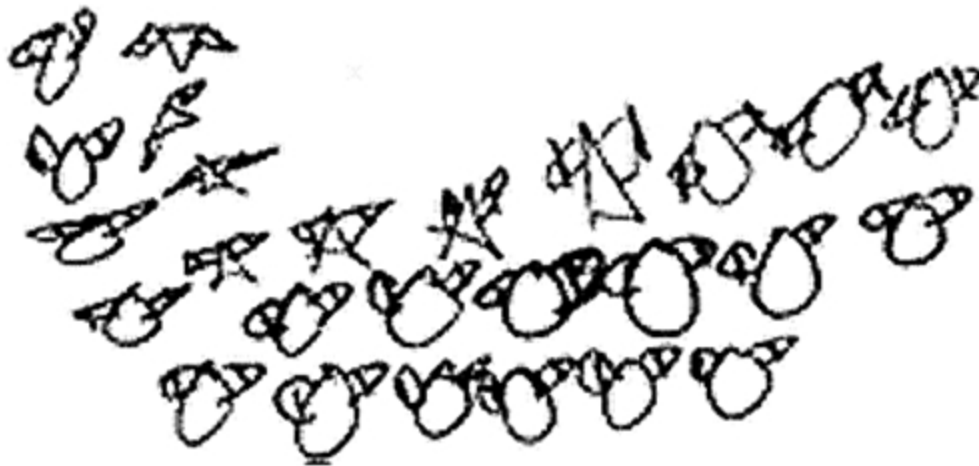
so 14 is how
many she could

Student Four

Use drawings, words, or numbers to explain how you found the number of shy dog designs she could make.

Piece T 26

Piece X 52



Student Five

Use drawings, words, or numbers to explain how you found the number of shy dog designs she could make.

Piece T 26

Piece X 52

Answer: 15

I multiplied 11×15 so I got 15

Student Six

Use drawings, words, or numbers to explain how you found the number of shy dog designs she could make.

Piece T 26
Piece X 52

Answer: 7

the most X pieces you could use to make a dog is 14, because if you use all of them one dog will only have one ear. I know you can use 7 T pieces, because $\frac{1}{2}$ of 14 is 7.

Student Seven

Use drawings, words, or numbers to explain how you found the number of shy dog designs she could make.

Piece T 26
Piece X 52

Answer: 26

I counted by (2) to get the (X's) and I counted by (13) for the (T's).

Student Eight