



ANSWER KEY

Session 17

Bridges Student Book, page 21, Using Variables

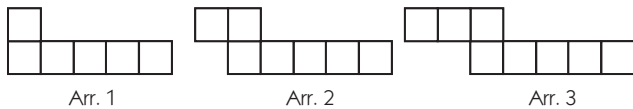
1 Students' responses will vary. Example:
There are always 3 more tiles than the arrangement number, like on the 4th arrangement, there would be 3 tiles on top and 4 on the bottom. On the 15th arrangement, there would be 3 tiles on top and 15 on the bottom. If you say n is the arrangement number, it would be $n + 3$ to make any arrangement.



2 n is the 14th arrangement, Students' explanations will vary. Example:
I drew 3 tiles, and I could see that the other number of tiles would be 14, because $3 + 14 = 17$, so n must be 14.



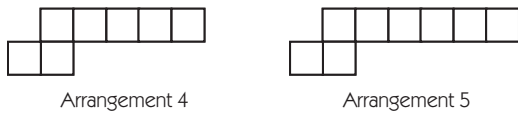
3 Students' responses will vary. Example:
The ones on the top equal the arrangement number and there are always 5 on the bottom.



Home Connection 8, pages 19–22, Tile Patterns

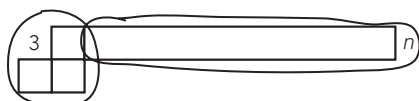
1 Students' observations will vary.

2

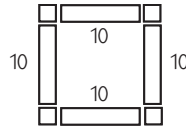


3 13, Students' work will vary. Example:
The 10th arrangement would have 3 in a backwards L and then 10 more sticking out on top. $3 + 10 = 13$

4 Students' responses will vary. Example:
It's $n + 3$ because any arrangement in this pattern is going to have 3 in a backwards L and then the arrangement number hooked on in the top row.

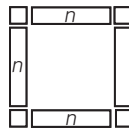


5 Students' observations will vary.
6 44, Students' methods will vary. Example:
It would have 1 in each corner and then 10 on each side. $4 \times 10 = 40$ and $40 + 4 = 44$.



7 The 12th arrangement, Students' explanations will vary. Example:
I know that the 10th arrangement takes 44 tiles, and also each new arrangement adds 4 more, 1 on each side. $44 + 4 + 4 = 52$, so it must be the 12th arrangement.

8 Students' responses will vary. Example:
It's 4 times the arrangement number plus 4 in the corners, so it would be $4 \times n + 4$.



- 9 a** 5, Because $(4 + 56 \div 8 \times 3) \div 5$
 $(4 + 7 \times 3) \div 5$
 $(4 + 21) \div 5$
 $25 \div 5$
 5
- b** 3, Because $(11 + 72 \div (2 \times 6) - 8) \div (32 \div 16 + 1)$
 $(11 + 72 \div 12 - 8) \div (2 + 1)$
 $(11 + 6 - 8) \div 3$
 $(17 - 8) \div 3$
 $9 \div 3$
 3
- c** 567, Because $(125 \div (45 \div 9) \times 4 \times 6) - 33$
 $(125 \div 5 \times 4 \times 6) - 33$
 $(25 \times 4 \times 6) - 33$
 $(100 \times 6) - 33$
 $600 - 33$
 567
- 10** (challenge) The following solutions will work for parts a and b. Students may come up with others as well.
 $(27 - (3 \times 2) + 60) \div 9 = 9$
 $((60 - 27 - 9) \div 2) - 3 = 9$