Pick's theorem worksheet – Grade 10

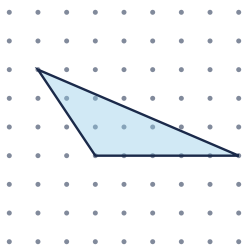
Grade 10 · Mixed level · 20 questions · **Version X1945**

Name: _____ Date: _____ Score: ___ / 20

Scan to check answers + earn stars

Done the worksheet? Scan the code (or enter version X1945 on this skill's page at themathmeridian.com) to check your answers online and earn stars.

1. Use Pick's theorem to find the area of this polygon, in square units.



Answer: _____ units²

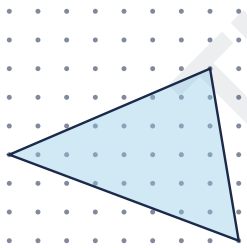
2. Which is Pick's theorem?

A. A = I + B/2 − 1 **B.** A = I + B − 1 **C.** A = 2I + B **D.** A = I − B/2 + 1

3. A polygon on a dot grid has 5 dots inside and 12 on the boundary. What is its area, in square units?

Answer: _____ units²

4. Count the dots on the boundary of this polygon.

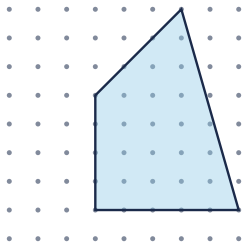


Answer: _____

The Math Meridian

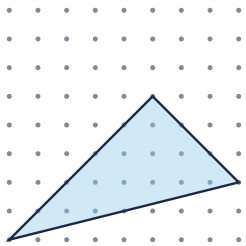
© The Math Meridian · themathmeridian.com · Free for personal and classroom use

5. Count the dots strictly inside this polygon.



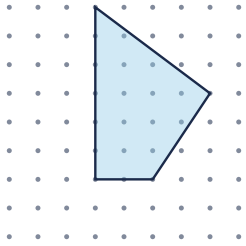
Answer: _____

6. Count the dots on the boundary of this polygon.



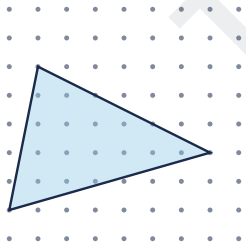
Answer: _____

7. Count the dots strictly inside this polygon.



Answer: _____

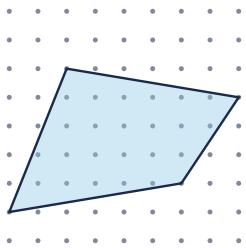
8. What is the area of this polygon, in square units? Check using Pick's theorem or by counting.



Answer: _____

The Math Meridian

9. Work out the area of this polygon, in square units. Check using Pick's theorem or by counting.



Answer: _____

10. A polygon has an area of 13 and 18 boundary dots. How many dots are inside?

Answer: _____

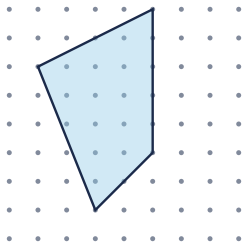
11. How many grid dots lie on the segment from (0, 0) to (1, 8), counting both ends?

Answer: _____

12. A garden is drawn on a 1 m grid. It has 0 grid points inside and 10 on the fence. What is its area, in m^2?

Answer: _____ m^2

13. Find the area of this polygon, in square units. Check using Pick's theorem or by counting.



Answer: _____

14. A polygon has an area of 13 and 3 inside dots. How many dots are on the boundary?

Answer: _____

15. A 9 by 8 rectangle has corners on grid dots and sides along the grid. How many dots are on its boundary?

Answer: _____

16. Why can't Pick's theorem give an area of 2.25 for a polygon with corners on grid dots?

A. A must be a whole number or end in .5 **B.** Areas cannot be decimals **C.** B must be 0 **D.** I must be even

17. A triangle has corners (0, 0), (12, 0) and (0, 12). How many dots are inside it?

Answer: _____

The Math Meridian

18. An 8 by 9 rectangle has corners on grid dots and sides along the grid. How many dots are inside?

    Answer: _____

19. A square with corners (0, 0), (7, 7), (0, 14) and (-7, 7) is drawn on a grid. How many dots are inside it?

    Answer: _____

20. An 8 by 8 rectangle has corners on grid dots and sides along the grid. How many dots are inside?

    Answer: _____

The Math Meridian

Answer key · Version X1945

Pick's theorem worksheet – Grade 10 · Grade 10 · to reprint this sheet or check the answers, enter X1945 on the skill page.

1. **7.5**
2. **A (A = I + B/2 − 1)**
3. **10**
4. **3**
5. **18**
6. **10**
7. **11**
8. **16.5**
9. **24**
10. **5**
11. **2**
12. **4**
13. **17**
14. **22**
15. **34**
16. **A (A must be a whole number or end in .5)**
17. **55**
18. **56**
19. **85**
20. **49**

The Math Meridian