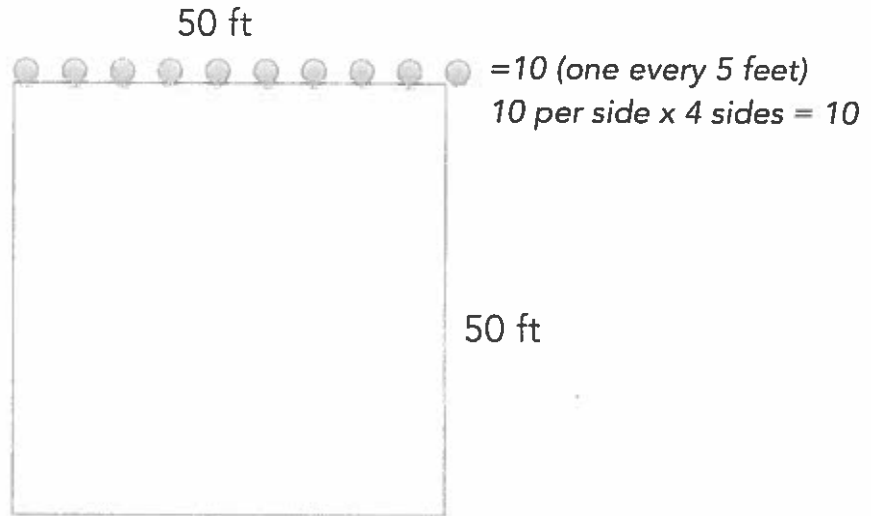


4th grade Math Madness 2017 – ANSWER KEY

1. 40 trees



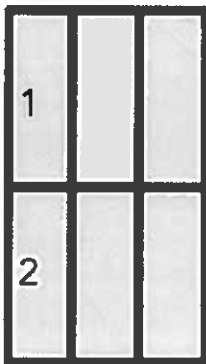
2. Increase by 18, decrease by 7, increase by 18, etc.... (or +18, -7, +18, -7)

3. 102 minutes

$$34 \times 3 = 102 \quad (34 \text{ cuts at 3 minutes per cut.})$$

You need to make 34 cuts to get 35 pieces.

4. 18 rectangles (Don't just look at the lines. If you take sections 1 and 2, you get a 3rd triangle, etc.)



5. a) $(1 \times 1 \times 3) \times 8 = 24$

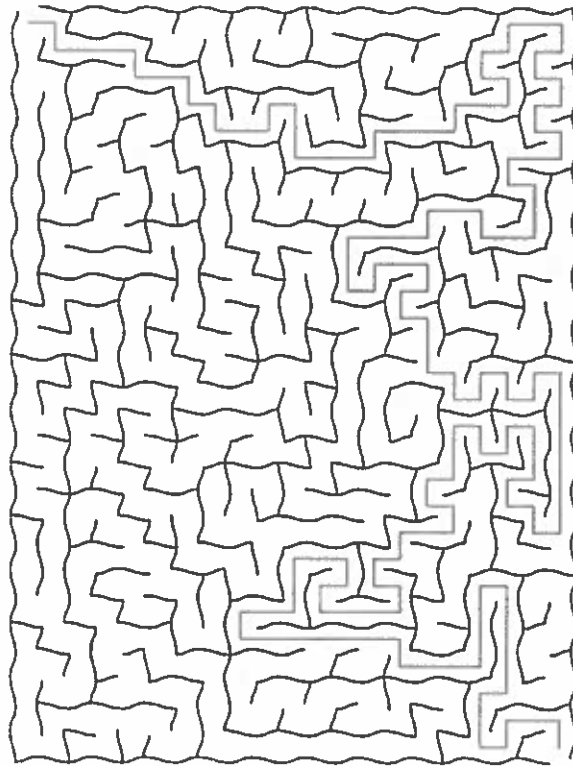
b) $(6 - 5) \times 4 \times 6 = 24$

6. There will be six handshakes total.

$$3 \text{ (person 1)} + 2 \text{ (person 2)} + 1 \text{ (person 3)} = 6$$

The fourth person has, by this time, had her hand shaken by everyone.

7. Maze solution!



8. It will take her 8 weeks. Split the \$22 book into the \$3 payments, and you have 7 weeks, plus one left over...that means that it takes 8 weeks, because it's more than 7!

$$22 \div 3 = 7 \text{ remainder } 1$$

9. There are nine (9) children between Jim Bob and Gertrude.

John is the #8 from the front of the line ($39 - 32 + 1 = 8$);

Between the 8th and the 18th, there are $18 - 8 - 1 = 9$ children.

10. (a) 16 ($4 \times 4 = 16$)

Because if you look at the first circle, $1 \times 4 = 4$, so the 2nd group of circles has 4 circles in it, and $4 \times 4 = 12$, so the third circle is comprised of 12 circles, so ...

(b) 64 ($8 \times 8 = 64$) (as above)

11. Pattern B fits. Color in the space in the center of the pattern using B as your template. See how they look like little windmills?

12. Sudoku! It's a pretty easy one.

2	3	5	1	4	7	9	8	6
4	1	8	9	6	5	7	2	3
6	9	7	2	8	3	1	4	5
9	8	6	5	7	4	2	3	1
5	7	3	8	1	2	4	6	9
1	4	2	6	3	9	8	5	7
7	5	9	3	2	8	6	1	4
8	6	4	7	5	1	3	9	2
3	2	1	4	9	6	5	7	8

13. Hidato! Also pretty easy!

26	27	7	6	9	12	11
23	25	28	8	5	10	13
24	22	19	29	4	15	14
21	20	30	18	16	3	1
36	38	39	31	17	45	2
37	35	32	40	44	46	48
34	33	41	42	43	49	47

14. Strategy: List the single-digit primes. (*Remember, neither 0 nor 1 are prime!*)

The single-digit prime numbers are 2, 3, 5, and 7. Select the 3 greatest numbers from this list and write them from largest to smallest. The last time before noon when all 3 digits are prime is 7:53.

15. The letter B is at the bottom of the box! Make one on blank paper and fold it yourself!

16. Since it's currently 1:45 or a quarter 'til 2:00, ten minutes earlier would be letter **A**, 1:35.

17. Eugénie would unfold shape **D**. Try it yourself!

18. 6 2 1 6

19. 9 6 , 3 4 9

20.

2	x	3	=	6	6	x	5	=	30
				x	x				
4	x	1	=	4	8	x	4	=	32
			=		=				
		2	x	24	=	48			