

LEVEL 2 CHALLENGE GRADE 6 AND 7 ROUND TWO **ANSWERS**

SECTION A

- | | | | | | | | | | | | | | | | | | | | | | |
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| 1. | <input checked="" type="radio"/> | A | <input type="radio"/> | B | <input type="radio"/> | C | <input type="radio"/> | D | <input type="radio"/> | E | 9. | <input type="radio"/> | A | <input type="radio"/> | B | <input checked="" type="radio"/> | C | <input type="radio"/> | D | <input type="radio"/> | E |
| 2. | <input type="radio"/> | A | <input checked="" type="radio"/> | B | <input type="radio"/> | C | <input type="radio"/> | D | <input type="radio"/> | E | 10. | <input type="radio"/> | A | <input checked="" type="radio"/> | B | <input type="radio"/> | C | <input type="radio"/> | D | <input type="radio"/> | E |
| 3. | <input checked="" type="radio"/> | A | <input type="radio"/> | B | <input type="radio"/> | C | <input type="radio"/> | D | <input type="radio"/> | E | 11. | <input type="radio"/> | A | <input type="radio"/> | B | <input type="radio"/> | C | <input checked="" type="radio"/> | D | <input type="radio"/> | E |
| 4. | <input checked="" type="radio"/> | A | <input type="radio"/> | B | <input type="radio"/> | C | <input type="radio"/> | D | <input type="radio"/> | E | 12. | <input type="radio"/> | A | <input checked="" type="radio"/> | B | <input type="radio"/> | C | <input type="radio"/> | D | <input type="radio"/> | E |
| 5. | <input type="radio"/> | A | <input type="radio"/> | B | <input checked="" type="radio"/> | C | <input type="radio"/> | D | <input type="radio"/> | E | 13. | <input type="radio"/> | A | <input checked="" type="radio"/> | B | <input type="radio"/> | C | <input type="radio"/> | D | <input type="radio"/> | E |
| 6. | <input type="radio"/> | A | <input type="radio"/> | B | <input type="radio"/> | C | <input type="radio"/> | D | <input checked="" type="radio"/> | E | 14. | <input type="radio"/> | A | <input type="radio"/> | B | <input type="radio"/> | C | <input checked="" type="radio"/> | D | <input type="radio"/> | E |
| 7. | <input type="radio"/> | A | <input type="radio"/> | B | <input type="radio"/> | C | <input checked="" type="radio"/> | D | <input type="radio"/> | E | 15. | <input type="radio"/> | A | <input type="radio"/> | B | <input checked="" type="radio"/> | C | <input type="radio"/> | D | <input type="radio"/> | E |
| 8. | <input type="radio"/> | A | <input type="radio"/> | B | <input checked="" type="radio"/> | C | <input type="radio"/> | D | <input type="radio"/> | E | | | | | | | | | | | |

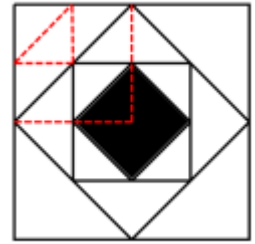
SECTION B

16. 14
17. 23
18. 15
19. Mandy
20. 5

SECTION A

1. A

2. B Diving the area as shown alongside we get the fraction shaded to be $\frac{4}{32} = \frac{1}{8}$.



3. A E

4. A Thursday

5. C $173 \times 2 = 346$, $(14 \times 20) = 280$, $(14 \times 2) = 28$, $280 + 28 = 308$.
The number lies between 308 and 346 and is a multiply of 30 $\Rightarrow 330$.

6. E

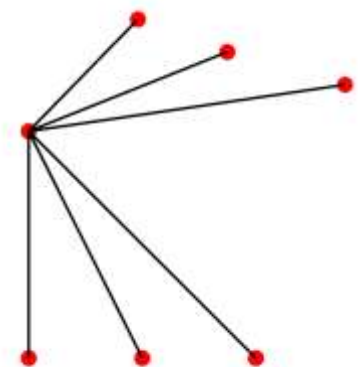


7. D Since the distance from the 1st to 3rd child is 6 m, the distance between each child is 3 m. Therefore, $3 \times 8 = 24$ is the length of the whole line.

8. C To be a multiple of 6, the number must be divisible by three and two.
Closest multiple of 3 that is even is 690.

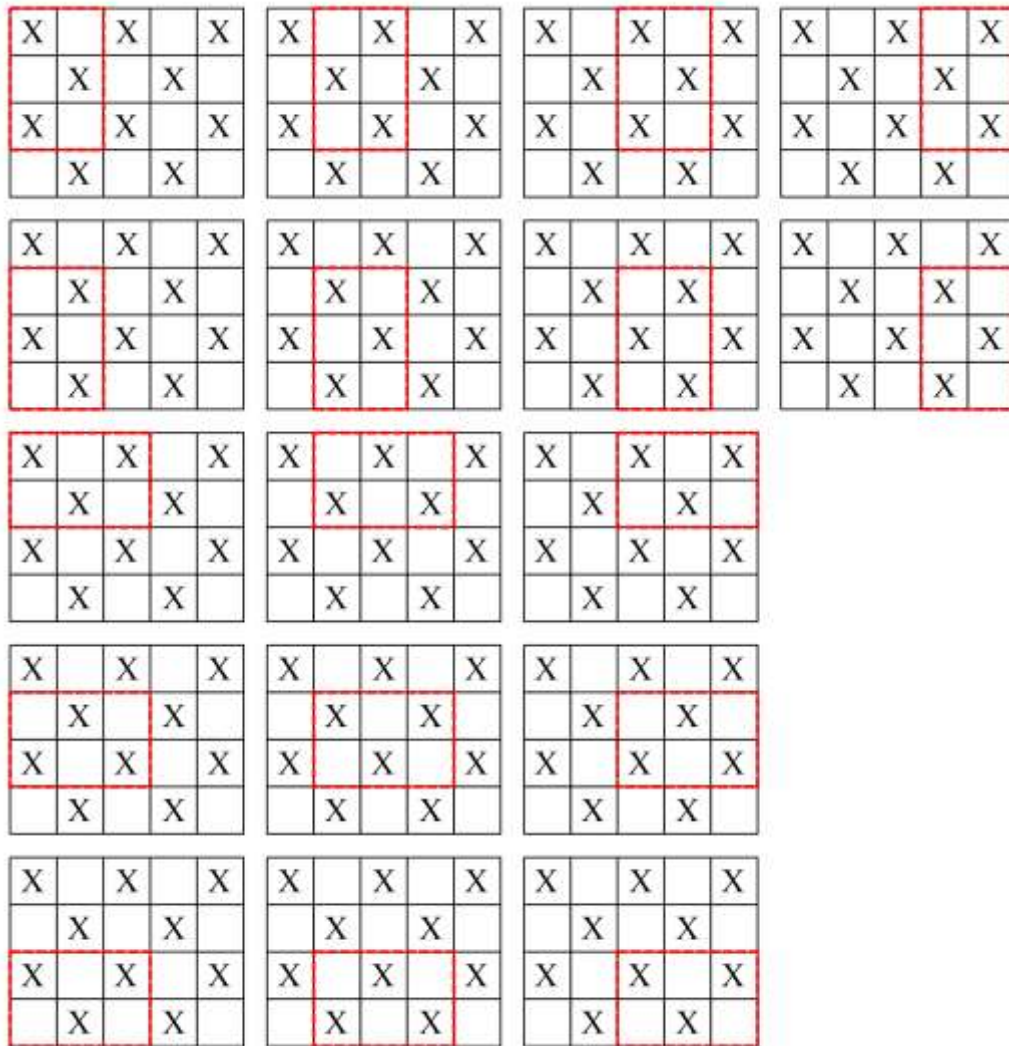
9. C 09h59

10. B $6 + 5 + 4 + 3 + 2 + 1 = 21$.



11. D 27

12. B 17 Rectangles.



13. B 5 Green Beads : 2 Red Beads
10 Green Beads : 3 Purple Beads.

\therefore 10 Green Beads : 4 Red Beads : 3 Purple Beads
 \therefore 30 Green Beads : 12 Red Beads : 9 Purple Beads

14. D 1, 21, 61, 201, 261, 601, 621, 2061, 2601, 6021, 6201

15. C Let the pumpkins be x , y and z .

$$\begin{cases} x + y = 12 \\ x + z = 13 \Rightarrow 2x + 2y + 2z = 40 \Rightarrow x + y + z = 20 \\ y + z = 15 \end{cases}$$

$\therefore z = 8, x = 5$ and $y = 7$.

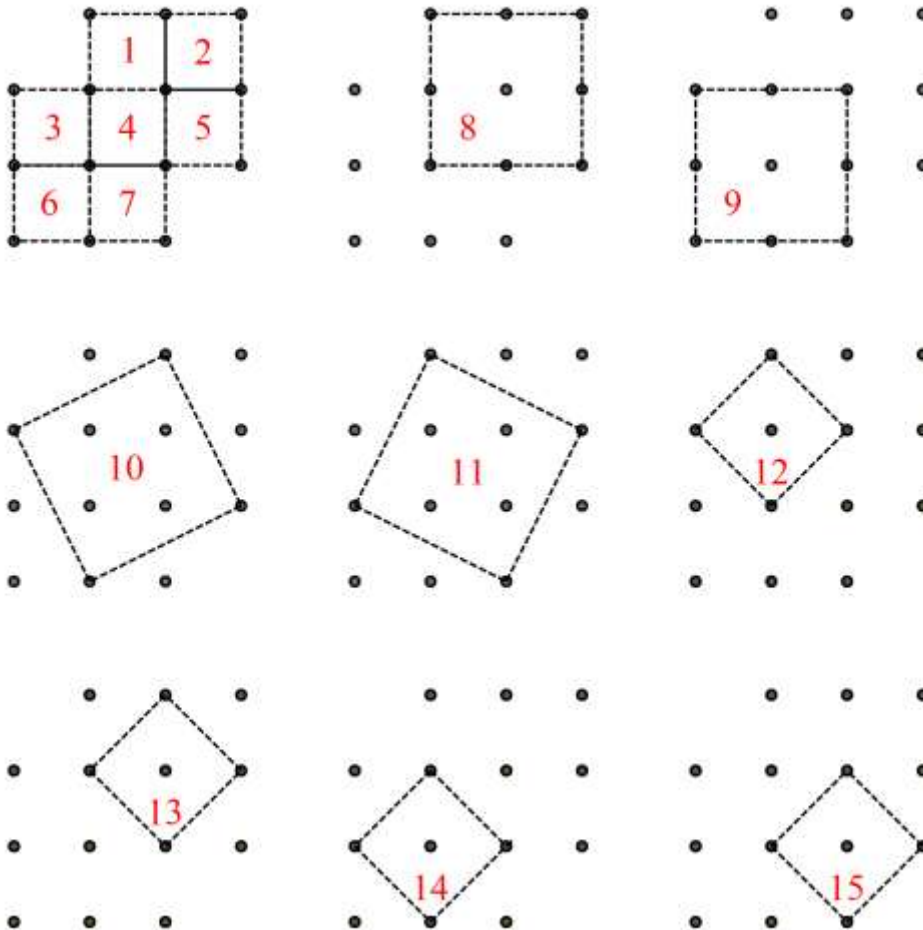
The lightest pumpkin weighs 5kgs.

SECTION B

16. $3P = 27 \Rightarrow P = 9.$
 $2 + 7 + 2Q = 9 \Rightarrow 2Q = 0 \Rightarrow Q = 5.$
 $P + Q = 9 + 5 = 14.$

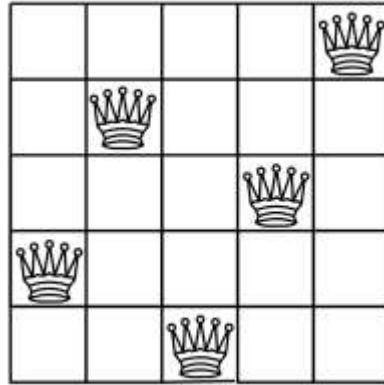
17.
 $0,2x + 0,5y = 12,6 \Rightarrow 2x + 5y = 126 \dots \textcircled{1}$
 $x + y = 39 \Rightarrow 2x + 2y = 78 \dots \textcircled{2}$
 $\textcircled{1} - \textcircled{2}: 3y = 48 \Rightarrow y = 16$
 $\therefore x = 23$

18.



19. Mandy's prescription will last $20 \div 2 = 10$ days.
 Flora's prescription will last 7 full days and during the 8th she can take it twice more and finish at 13h00. Thus, Floras medicine will last longer which means Mandy's finishes first.

20.



Interestingly, a $n \times n$ chessboard will require n queens to attack every space. There are many symmetries to the above example.