

Selected Response

1.	B
2.	D
3.	C
4.	C
5.	B

6.	A
7.	D
8.	D
9.	B
10.	D

11.	A
12.	C
13.	A
14.	B
15.	B

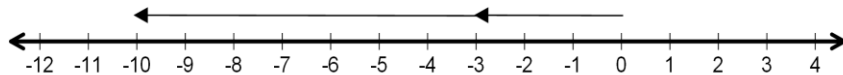
16.	C
17.	A
18.	A
19.	D
20.	C

21.	B
22.	D
23.	B
24.	C
25.	A

Section 1 -Constructed Response: Answers are to be done in the spaces provided. Show all necessary workings.

1. A) Use a model (i.e. number line, integer tiles, etc.) to determine:

$(-3) + (-7)$ [1 mark]



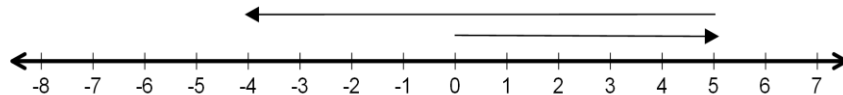
OR



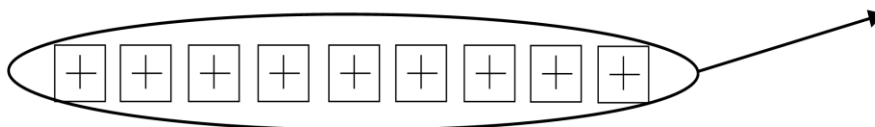
ANSWER= -10

B) Use a model (i.e. number line, integer tiles, etc.) to determine:

$(+5) - (+9)$ [1 mark]



OR



ANSWER = -4

2. This past week, Mark practised piano for $3\frac{1}{2}$ hours, played soccer for $6\frac{5}{6}$ hours, and talked on the phone for $4\frac{1}{3}$ hours.

A) How many hours did Mark spend practising piano and playing soccer? Write your answer as a fraction in simplest form. [2 marks]

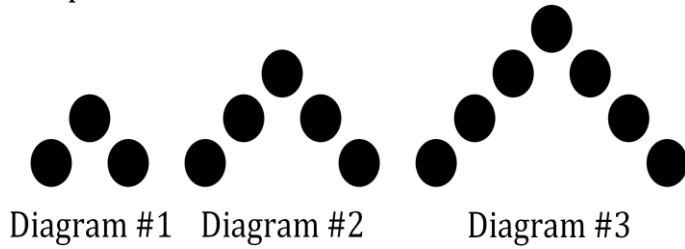
$$\begin{aligned} & 3\frac{1}{2} + 6\frac{5}{6} \\ &= \frac{7}{2} + \frac{41}{6} \\ &= \frac{21}{6} + \frac{41}{6} \\ &= \frac{62}{6} = \mathbf{OR} \frac{31}{3} = 10\frac{1}{3} \end{aligned}$$

B) How many more hours did Mark spend playing soccer than talking on the phone? Write your answer as a fraction in simplest form. [2 marks]

$$\begin{aligned} & 6\frac{5}{6} - 4\frac{1}{3} \\ &= \frac{41}{6} - \frac{13}{3} \\ &= \frac{41}{6} - \frac{26}{6} \\ &= \frac{15}{6} = \mathbf{OR} \frac{5}{2} = 2\frac{1}{2} \end{aligned}$$

Section 2 : Constructed Response: Answers are to be done in the spaces provided.
Show all necessary workings.

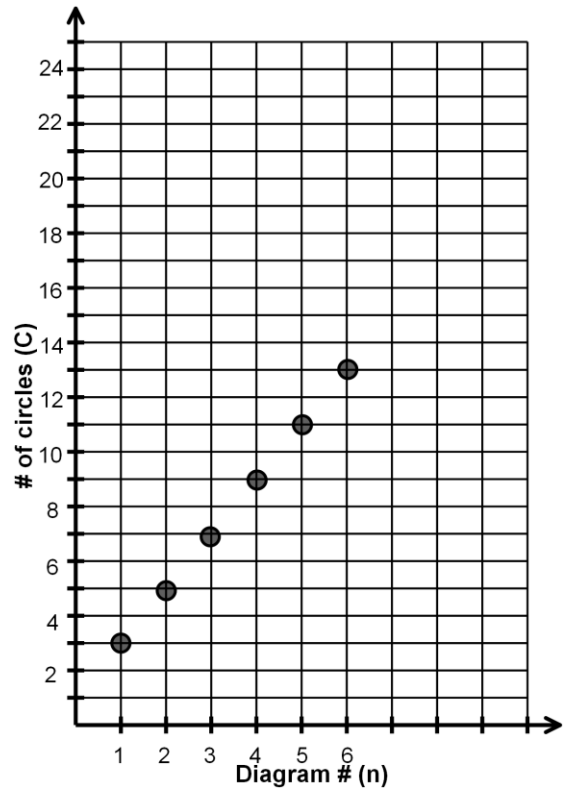
3. Circles are used to create the pattern below:



A) Complete this table. [1 mark]

Diagram # (n)	# of circles (C)
1	3
2	5
3	7
4	9
5	11
6	13

B) Graph the relation on the grid below. [1 mark]



C) Write a relation to show how the number of circles, **C**, is related to the diagram number, **n**. [1 mark]

$$C = 2n + 1$$

D) Determine the number of circles in the 10th diagram. [1 mark]

$$C = 2n + 1 = 2(10) + 1 = 21 \quad \text{OR} \quad \text{determine from extending pattern in table or graph above}$$

4. Mr. D is buying a new iPad to use in his classroom. The regular price is \$420 but it's on sale for 25% off. If the tax rate is 13%, how much will Mr. D pay for the iPad?
[2 marks]

$$\begin{aligned}
 \$420 \times 0.25 &= \$105 & \$315 \times 0.13 &= \$40.95 \\
 \$420 - \$105 &= \$315 & \$315 + \$40.95 &= \$355.95
 \end{aligned}$$

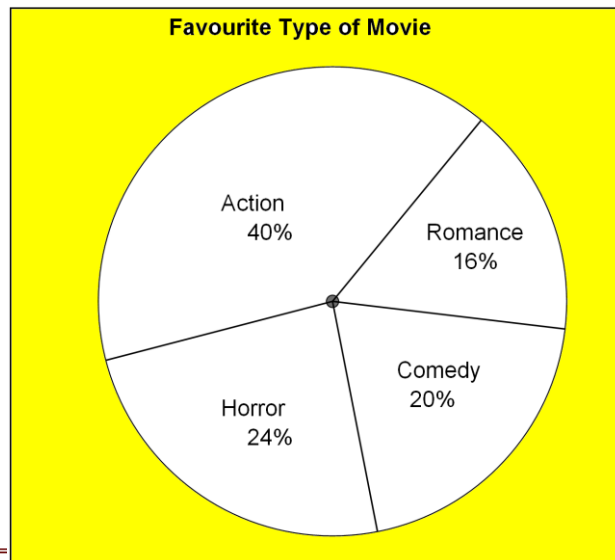
Mr. D pays \$355.95 for the iPad

5. Some Gr. 7 students were surveyed to determine their favourite type of movie.

A) Complete the table below. [2 marks]

Favourite Type of Movie	Number of Students	Fraction of Total	Percent of Students (%)	Central Angle (°)
Action	20	$\frac{20}{50}$	40	144
Comedy	10	$\frac{10}{50}$	20	72
Horror	12	$\frac{12}{50}$	24	86.4
Romance	8	$\frac{8}{50}$	16	57.6
Total	50	1	100	360

B) Use the data to construct and label a circle graph. [2 marks]



6. Solve:

A) $6x = 72$ [1 mark]

$$6x = 72$$

$$\frac{6x}{6} = \frac{72}{6} \Rightarrow x = 12$$

B) $6x + 8 = 32$ [2 marks]

$$6x + 8 = 32$$

$$6x + 8 - 8 = 32 - 8$$

$$6x = 24$$

$$\frac{6x}{6} = \frac{24}{6} \Rightarrow x = 4$$

7. *Juan's Cleaners* have developed a new disinfectant to kill germs. Ten tests were performed with the following results:

Percent of germs eliminated: 67%, 99%, 89%, 87%, 99%, 70%, 99%, 69%, 92%, 61%

A) Determine the mean and median of this data set. [1.5 marks]

$$\text{Mean} = \frac{67 + 99 + 89 + 87 + 99 + 70 + 99 + 69 + 92 + 61}{10} = \frac{832}{10} = \mathbf{83.2}$$

Median => in order: 61, 67, 69, 70, 87, 89, 92, 99, 99, 99 => since even # of values, take average of middle two => **median is 88**

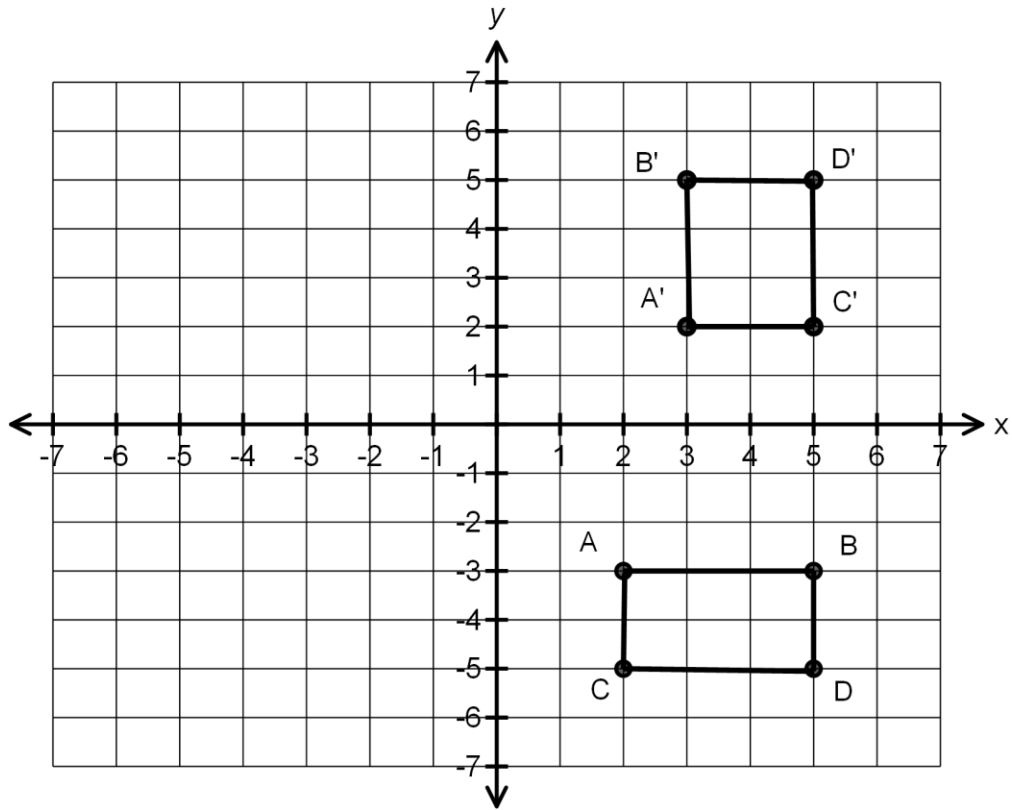
B) If you were the owner of the company, which measure of central tendency (mean, median, or mode) would you use to try and convince people that your product is worth buying? Explain your answer.

[1.5 Marks]

If I was the owner, I would chose the **mode, 99**, since it's the largest of the measures of central tendency for the data set and I'm trying to show how good my product is at eliminating germs.

i.e. my product eliminates 99% of germs.

8. Plot $A(2, -3)$, $B(5, -3)$, $C(2, -5)$, and $D(5, -5)$ on the coordinate grid. Connect the points to form rectangle $ABCD$. Rotate $ABCD$ 90° counter clockwise around the origin to form $A'B'C'D'$. What are the coordinates of $A'B'C'D'$? [3 Marks]



$$A'=(3,2)$$

$$B'=(3,5)$$

$$C'=(5,2)$$

$$D'=(5,5)$$