

## Section I (No Calculator)

MCQs

20 x 2 = 40

For each of the questions below, choose the best answer from the four choices given.

1. Which equation is true?

A.  $\frac{5}{8} = -\left(\frac{-5}{-8}\right)$

B.  $\frac{-3}{-4} = -\frac{3}{4}$

C.  $-\left(\frac{12}{-17}\right) = \frac{12}{17}$

D.  $\frac{9}{-13} = -\left(\frac{-9}{13}\right)$

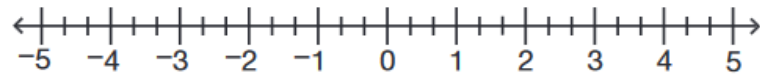
2. Michael paid a total of \$48 for 4 pizzas. He used a coupon for \$4 off the entire order. The equation below can be used to determine the regular price of 1 pizza,  $p$ .

$$4p - 4 = 48$$

What is the regular price of 1 pizza?

- A. \$11
- B. \$12
- C. \$13
- D. \$16
3. Tracy has \$35 to buy comic books and to pay for a movie ticket. Each comic book costs \$3. The movie ticket costs \$10. Which inequality can be used to determine how many comic books,  $b$ , Tracy can buy?
- A.  $35 - 3b \leq 10$
- B.  $35 - 3b \geq 10$
- C.  $35 - 10b \leq 3$
- D.  $35 - 10b \geq 3$

4. Use the number line below to answer the question.



Which number is 4 units from  $-1$ ?

- A.  $-3$
  - B.  $-4$
  - C.  $3$
  - D.  $4$
5. Chico is saving for new shoes that cost \$87. He already has \$9 saved, and he will save the same amount each week. Chico wants to buy the shoes in 6 weeks. The inequality shown below can be used to determine  $x$ , the amounts that Chico can save each week and still buy the new shoes in 6 weeks.

$$9 + 6x \geq 87$$

What is the least amount Chico can save each week and still buy the new shoes in 6 weeks?

- A. \$9
  - B. \$13
  - C. \$15
  - D. \$16
6. Use the equation below to answer the question.

$$\left(-\frac{1}{3}\right) \div 27 = x$$

Which equation could be solved to also find  $x$ ?

- A.  $-27 \times 3 = x$
- B.  $-27 \div 3 = x$
- C.  $-1 \div (27 \div 3) = x$
- D.  $-1 \div (27 \times 3) = x$

7. Divide.

$$-1\frac{1}{5} \div -1\frac{5}{6}$$

A.  $-\frac{11}{5}$

B.  $-\frac{36}{55}$

C.  $\frac{36}{55}$

D.  $\frac{11}{5}$

8. In Ms. Morales's class, the ratio of boys to girls is 3:7. The class sizes at Ms. Morales's school range from 22 to 34 students per class. What is the total number of students in Ms. Morales's class?

A. 21 students

B. 24 students

C. 28 students

D. 30 students

9.

Use the set of numbers below to answer the question.

35	20	30	25	20
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What is the median of the list of numbers?

A. 30

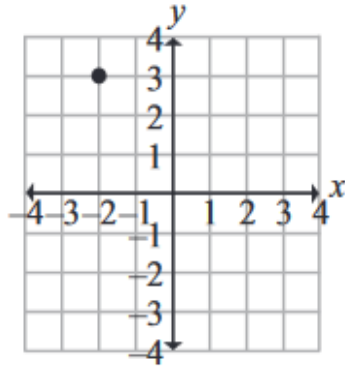
B. 20

C. 25

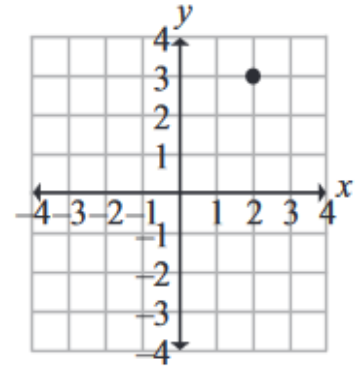
D. 26

10. Which graph shows the ordered pair  $(-2, 3)$  plotted correctly?

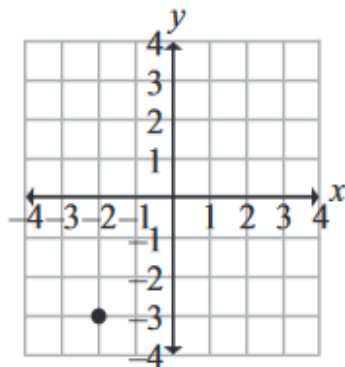
A.



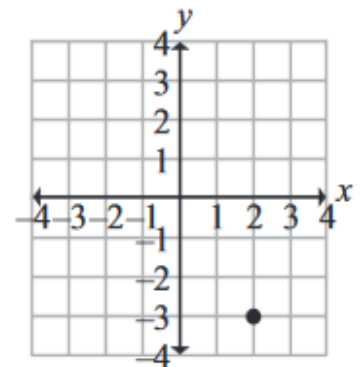
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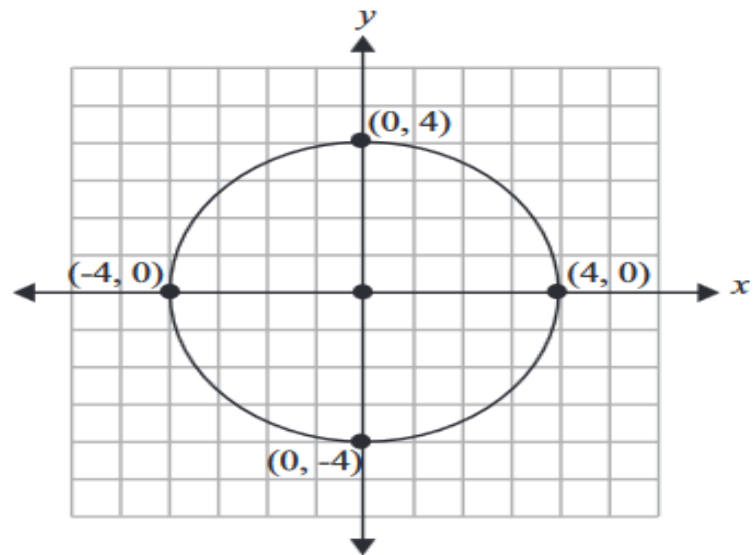


11. An item was on sale for \$60, but John did not have enough money to buy it. The shop assistant said he could reduce the price by 10%

How much was the shop assistant going to reduce the price by?

- A. \$ 54
- B. \$ 10
- C. \$ 50
- D. \$ 6

12. Use the coordinate grid below to answer the question.



What is the circumference of the circle?

- A. 12.56 units
  - B. 25.12 units
  - C. 50.24 units
  - D. 251.2 units
13. What is the value of  $2x + 2x$  when:

$$x = 3$$

- A. 6
- B.  $4x$
- C.  $6x$
- D. 12

14. The expression  $x+x+x+x$  is equivalent to

- A.  $4X$
- B.  $X4$
- C.  $X^4$
- D.  $X_4$

15. The expression  $5g$  is equivalent to

- A.  $2g + 3g$
- B.  $g+g+g+g+g$
- C.  $2g \times 3g$
- D. None of these

16. Ten bins hold a total of  $x$  apples. If each bin holds the same number of apples, what is the expression that could be used to calculate the number of apples in each bin?

- A.  $X^{10}$
- B.  $10X$
- C.  $10x - 10$
- D.  $X / 10$

17. A car salesman gets paid a certain amount per day plus another amount per sale (commission). The table below shows how much he earns in a day, for each number of sales

<b>Number of cars sold</b>	1	2	3	4	5	6	7	8
<b>Total pay</b>	150	200	250	300	350	400	450	500

How much does he get paid even if he doesn't manage to sell a car?

- A. \$ 0
- B. \$ 150
- C. \$ 100
- D. \$ 500

18. A car park is currently holding half its maximum capacity plus 6. If its maximum capacity is 100, how many cars are currently in the car park?
- A. 56  
B. 53  
C. 94  
D. 103
19. Middle-school students sold cookies in packages of 12. On the first day, they sold  $x$  packages. On the second day, they sold twice as many packages as on the first day. Which expression shows the number of cookies they sold on the second day?
- A.  $12(2x)$   
B.  $12(x + 2)$   
C.  $12(x - 2)$   
D.  $\frac{12x}{2}$
20. Use the expression below to answer the question.

$$-\frac{6}{15} + \frac{10}{22}$$

Which set of steps correctly solves the expression?

A.

$$-\frac{6}{15} + \frac{10}{22}$$

$$\frac{6}{15} - \frac{10}{22}$$

$$\frac{2}{5} - \frac{5}{11}$$

$$\frac{22}{55} - \frac{25}{55} = -\frac{3}{55}$$

C.

$$-\frac{6}{15} + \frac{10}{22}$$

$$\frac{10}{22} - \frac{6}{15}$$

$$\frac{5}{11} - \frac{2}{5}$$

$$\frac{5}{11} - \frac{2}{5} = -\frac{2}{11}$$

B.

$$-\frac{6}{15} + \frac{10}{22}$$

$$\frac{6}{15} - \frac{10}{22}$$

$$\frac{2}{5} - \frac{5}{11}$$

$$\frac{2}{5} - \frac{5}{11} = \frac{2}{11}$$

D.

$$-\frac{6}{15} + \frac{10}{22}$$

$$\frac{10}{22} - \frac{6}{15}$$

$$\frac{5}{11} - \frac{2}{5}$$

$$\frac{25}{55} - \frac{22}{55} = \frac{3}{55}$$

**Section II**

**Attempt the following questions. All questions carry equal marks.**

**10 x 2 = 20**

**1. Calculate  $29 + (-9) + 10$**

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**2. Ben splits his pocket money up**

- 25% goes to entertainment
- 20% goes to bus fare
- 15% goes to food & drinks
- He saves the rest

**What percentage of his pocket money does he save?**

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**3. A recipe to make 20 cup cakes calls for 250 g of sugar and 4 eggs. If you wanted to make 40 cup cakes how much sugar and how many eggs should you use?**

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4. Complete the table

<b>X</b>	<b>2</b>	<b>4</b>	<b>6</b>	<b>8</b>
<b><math>3x - 1</math></b>	<b>5</b>	<b>11</b>		

5. Calculate

$$\frac{3}{4} \times \frac{1}{9}$$

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6. Convert the following fraction to decimal

$$\frac{1}{5}$$

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7. Simplify the expression

$$P + P + P + 8P + 3P$$

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8. Which expression below is for an area of a rectangle? Which one is for a perimeter?

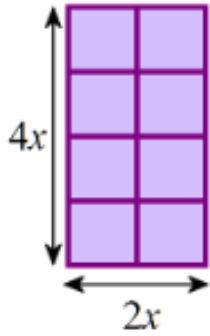
$$4a + 4b$$

$$2a \cdot 2b$$

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9. Write an expression for the area and perimeter of rectangle



c.

area =

perimeter =

10. Simplify an expression

$$12a^2 - 8a^2 - 3a^2$$

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P.T.O

Section III

Attempt the following questions. All questions carry equal marks.

10 x 4 = 40

1.. Here is a funny riddle. Solve the maths problems to uncover the answer.

$$\underline{\hspace{2cm}} \div (-8) = 2$$

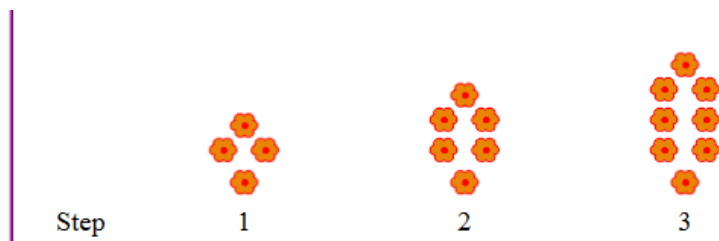
$$3 \cdot (-12) = \underline{\hspace{2cm}}$$

$$-15 \div \underline{\hspace{2cm}} = -5$$

$$-1 \cdot (-9) = \underline{\hspace{2cm}}$$

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2. Draw the fourth and fifth steps of the pattern and answer the questions.



How would you describe the growth of this pattern?

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How many flowers will be there in step 7?

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3. Simplify

$$3x = -4 + 3 + (-2)$$

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4.  $10 \frac{1}{5} \div \left(-2 \frac{1}{3}\right)$

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5. Find what is missing from the sums.

a.  $8x + 2 + \underline{\hspace{2cm}} = 5x + 8$

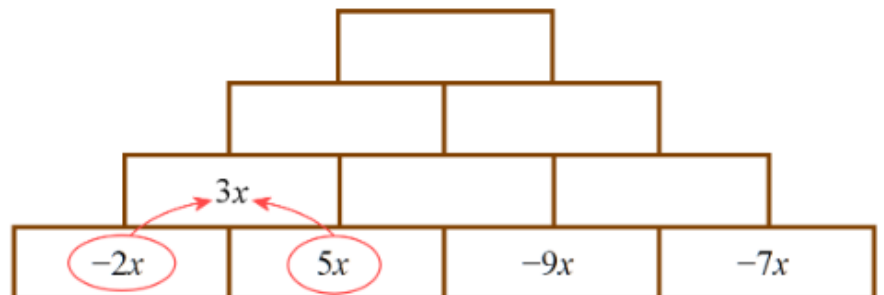
b.  $5b - 2 + \underline{\hspace{2cm}} = 2b + 7$

c.  $-2z + \underline{\hspace{2cm}} = 1 - 5z$

d.  $-4f + 3 + \underline{\hspace{2cm}} = -f - 1$

6.

Fill in the pyramid! Add each pair of terms in neighbouring blocks and write its sum in the block above it.



**7. Find the mean**

**2, 5, 4, 3, 6, 7, 9, 8**

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**8. Find the median. Find the mode.**

**2, 6, 15, 3, 1, 8, 7**

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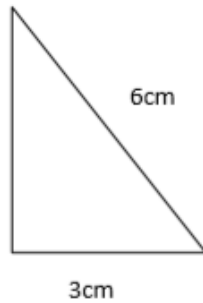
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9. Calculate the length of the unknown side in the following diagram.




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10. A man stands at the base of a cliff which is 120 metres high. He sees a friend 100 metres away along the beach. What is the shortest distance from his friend to the top of the cliff?

