Year 7

End of Semester Exams
December- 2018
Practice Questions

1. Round each of the following to the nearest 100.

a. 244 ……

b. 671 ……

c. 106 ……..

d. 350 ……

2. Work out the following.

a. 931 + 689	b. 8329 + 6645	c. Workout 404 ÷ 4	d. Find the sum of 756 and 1209.
e. 28 × 34	f. 419 ÷ 19	g. – 2 + 5 = …….	h. – 5 – 2 = …….

3. Use correct sign > or < between each pair.

a. – 1 ^{0}C ……. 5^{0}C

b. – 2 ^{0}C ……. 2^{0}C

c. – 7 ^{0}C ……. – 6 ^{0}C

4. Workout the following;

a. 2 + 5 × 4 = …….	b. 6 × (2 + 10) = …….	c. 25 – 5 + 4 = …….
d. 6 × 0 + 8 = …….	e. (18 – 9) × 4 = ……	f. 32 ÷ 8 ÷ 4 = …….
g. 4^2 + 5 = ……	h. $(2 + 3)^2$ – 4 = ……	i. 64 ÷ (16 ÷ 2)

5. Philip spent £ 285 on a shopping trip. Joe spent £ 189 more than Philip. How much did Joe spent?

……..

6. Look at the numbers below.

16 2 4 19 9 18 23 12

a. Factors of 36 …… b. Multiples of 8 ……..

C. Prime number …… d. square number ……..

7. Workout the following;

a. $8 + 3 \times 2$ = …….	b. $4 \times (5 + 3)$ = …….	c. $3 \times 6 \div 2$ = ……
d. $15 - 2 + 8$ = …….	e. $(10 - 4) \times 3$ = ……	f. $(12 + 6) \div (12 - 9)$ = ……

8. Write the set of temperatures in order. Start with the coldest.

3^0C, $-5\ ^0C$ $-8\ ^0C$ 2^0C $-11\ ^0C$

……..

4^0C, $-2\ ^0C$ $-6\ ^0C$ -3^0C

……

9. Find the squares of following numbers.

a. 3^2= ……. b. 9^2= ……. c. 16^2= ……. d. 20^2= …….

10. Work out the following divisions.

a. 484 ÷ 4	b. 248 ÷ 4	c. 336 ÷ 6

11. Challenge yourself.

$\frac{(5^2-7)}{(2^2-1)}$ ..... $(5^2-7) \div (2^2-1)$ .....

12. The temperature at midnight in Oslo on 31st January 2015 was −7°C The temperature at midnight in Athens on 31st January 2015 was 20°C higher than the temperature in Oslo.

a. Work out the temperature at midnight in Athens on 31st January 2015

.....°C

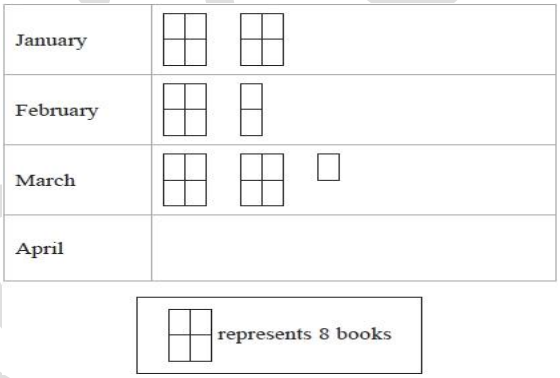
Here are the temperatures in Madrid at midnight for one week.

−7°C −6°C −1°C 4°C 0°C 0°C 3°C

b. Work out the range.

.....°C

13. The pictogram gives information about the number of books Matilda borrowed from a library in January, in February and in March.



(a) How many books did Matilda borrow from the library in January?

.....

(b) How many books did Matilda borrow from the library in February?

.....

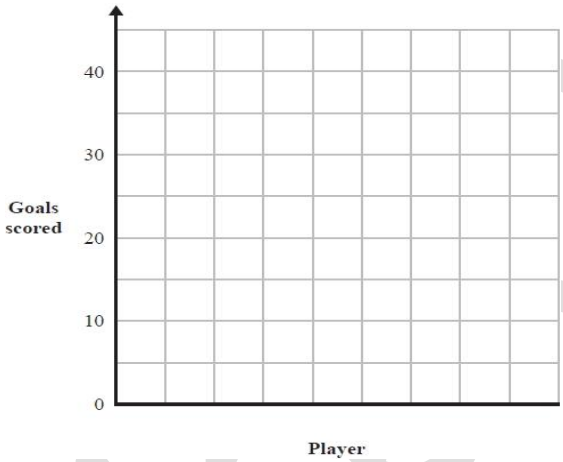
In April, Matilda borrowed 4 more books than she borrowed in March.

(c) Show this information on the pictogram.

14. The table shows the number of goals scored for a football team by each of four players during part of a football season.

Player	Goals scored
Ben	20
Dale	15
Matt	5
Ronald	35

a. On the grid, draw a bar chart to show this information.



b. Work out the range of the numbers of goals scored by these players. .....

15. Here is a list of all the coins in Amira's purse.

£1	5p	20p	1p
20p	1p	10p	£1
20p	10p	£1	20p
10p	20p	20p	5p

Complete the table for this information.

Coin	Tally	Frequency
£1		
50p		
20p		
10p		
5p		
2p		
1p		

Write down the modal coin

16. Here is a list of the numbers of children living in the first 5 houses in a street.

4 2 6 1 2

Work out the mean. ……

17. Here are the lengths of some lines that Bhavna measured with a ruler.

4 cm 7 cm 11 cm 7 cm 1 cm

a Work out the mean.

……cm

b Work out the range.

……cm

18. Students in two classes did a test.

The mean for class A was 56 and the range was 28

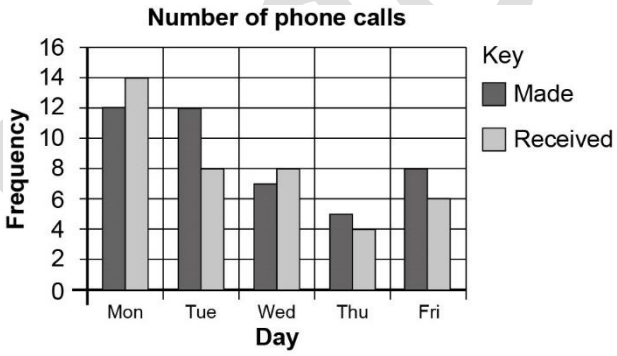
The mean for class B was 75 and the range was 10

Make two comparisons between class A and Class B.

……

……

19. The compound bar chart shows the number of calls Julie made and the number she received in 5 days.



a On which day was the difference greatest between the number of calls made and the number received?

……

b Julie thinks she made more calls then she received. Is she correct?
Give a reason for your answer.

……

20. Put a number in the empty box to make the calculation correct.

560	×	100	=	560000	÷	

21. Work out

a 4 + 2 × 8 ……

b 3 − 6 + 4 ……

c Find 48 × 100 ……

22. Work out £38 + £2.16 + 42p.

£……

23. Brett packs eggs into boxes. He puts 12 eggs in each box.

He has 332 eggs.

How many boxes can he fill completely?

24. Work out

a. -2 x 8 ……

b. -3 x -5 ……..

c. −8 + 6 ……..

d. −4 + − 6 ……

e. (12 – 7) × 5 ……..

f. 2 × 3 × 3× 3× 3 write in index form …….

g. $\sqrt{81} + 1$ = ……..

h. $\sqrt{100}$ = ……..

i. $(9 + 3) + (4 - 1)$ = ……..

25. Work out the following

a. 247 + 329

b. 1482 + 6530

c. 5078 – 723 – 82

d. 625 × 15

e. 130 × 18

f. 247 + 2008

26. There are five temperatures.

-5°C −4°C 3°C 0°C −2°C

a Put the temperatures in order. Start with the lowest temperature.

……

b Work out the difference between the lowest temperature and the highest temperature.

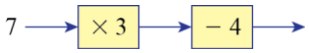
……

27. Circle the number that is **both** a multiple of 3 and a multiple of 5

10 25 27 30 35

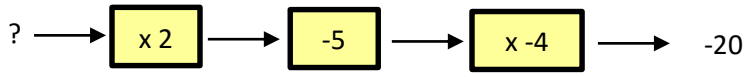
28. Write 280 as a product of its prime factors.

29. The input to this function machine is 7.



Work out the output.

30. The output from this function machine is -20.



Work out the input and show your working.

31. Simplify

a. e + e + e + e .....

b. $7m + 6m - 2m$ .....

c. $8e + 2f - 11e + 3f$ .....

d. 4y + 2y – 5y .....

e. 5 × 3x .....

f. b × b × b × b .....

g. 3b – b .....

h. b + 2 + 2b + 7 .....

i. -2 (a – 5) .....

j. – 3 (4 + 2x) .....

k. – a (2 – a) .....

32. The formula for working out the amount of pasta, in grams, for a meal is

Amount of pasta = 100 x number of people

Work out the amount of pasta needed for

a) 2 people
b) 10 people

33. A formula used in science is $m = dV$

Use this formula to work out m when:

a. d = 10 and V = 3

b. d = 13 and V = 6

34. A formula used in science to work out the potential energy, P, of an object is

$P = mgh$

Where m is the mass
g is the acceleration due to gravity
h is height

Work out the value of P when

a. m = 5, g = 10 and h = 3

b. m = 2, g = 9 and h = 7

£……

35. Round the following;

a. Write 584 to the nearest 100 ……

b. Write 3199 to the nearest 1000 ……

c. 6.47 ……

d. 4.849 ……

e. 3.60 ……

36. Circle any of the following that are true.

A 4.18 > 4.2 B 3.6 < 3.06 C 2.80 > 2.8 D 3.35 > 2.968

37. Write the correct sign (> , <) in between the pair of temperatures.

a. – 2 …….. – 1

b. 3 …….. -7

c. 0 …….. - 10

38. Charlie has a 1 litre jug of water. She fills 3 glasses and has 10 ml left over.

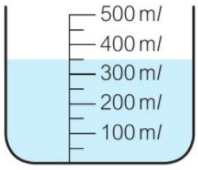
Work out how much water, in ml, is in each glass. ……ml

39. The perimeter of a square is 80 cm.

a. Find the length of one side, in centimetres. ……cm

b. Work out the area of the square, in square centimetres. …… cm^2

40. Write down the values shown on each scale



……

41. Work out:

a. 3 × 0.3 ……

b. 0.04 × 8 ……..

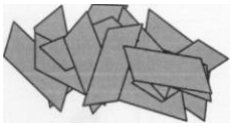
c. 0.3 × 0.4 ……..

d. 0.04 × 0.2 ……

e. 0.3 × 0.01 ……..

f. 0.07 × 0.8 ……..

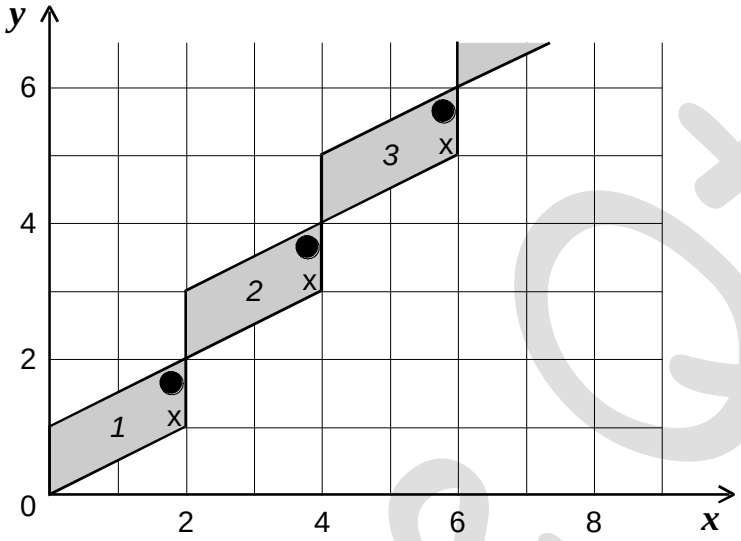
42. Daniel has some parallelogram tiles.



He puts them on a grid, in a continuing pattern.

He numbers each tile.

The diagram shows part of the pattern of tiles on the grid.



Daniel marks the **top right corner** of each tile with a ☒

The co-ordinates of the corner with a ☒ on **tile number 3** are (**6, 6**)

(a) What are the co-ordinates of the corner with a ☒ on **tile number 4**? (..... , ...)

1 mark

(b) What are the co-ordinates of the corner with a ☒ on **tile number 20**? (..... , ...)

1 mark

Explain how you worked out your answer.

1 mark

43. $3.7 \times 54 = 199.8$

Use this fact to work out the answers to the following:

a. 0.37×54 ……..

b. 0.037×540 ……..

c. $199.8 \div 3.7$ ……

d. $19.98 \div 5.4$ …….

44. Work out the following:

a. $13.3 + 5.9$ ……..

b. $34.9 - 18.3$ ……

45. Work out the following:

a. Abdullah buys a football for 28.75 QAR and some tennis balls for 4.95 QAR.
What is the total amount he spends?

……

b. Maryam cuts 0.38 metres of ribbon from a piece that is 1.2 metres long.
How much of the ribbon does she have left over?

……

c. Ibrahim buys 5 chocolate bars for 16.25 QAR.
What was the cost of each chocolate bar?

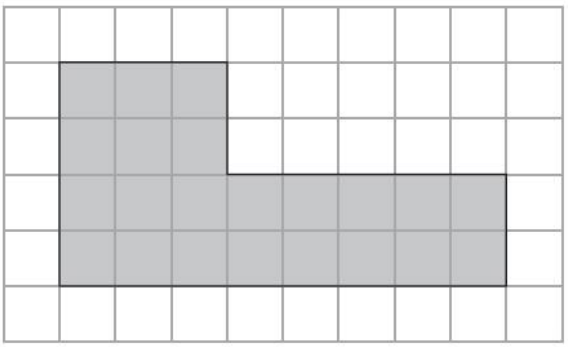
……

46. Khalifa and 4 friends go to a restaurant.

Khalifa orders:	Chicken Shwarma	19.50 QAR
	Lamb Chops	29.25 QAR
	Garlic Naan	4.75 QAR

The total cost for all of them is 238.75 QAR.
Is Khalifa better off if he pays for his own food or would it be better for him to pay an equal share of the bill?
Show all working and explain your answer clearly.

47. The shaded shape is drawn on a grid of centimetre squares.



Find the perimeter of the shaded shape.

. . . . . cm

48. The diagram shows an equilateral triangle and a rectangle.

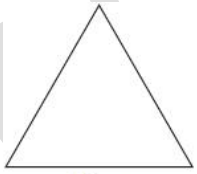


Diagram **NOT** accurately drawn

The perimeter of the equilateral triangle is the same as the perimeter of the rectangle.

The length of the rectangle is 11 cm.

Work out the width of the rectangle.

..... cm

49. Here is a rectangle.

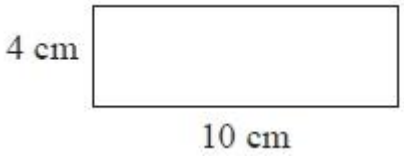
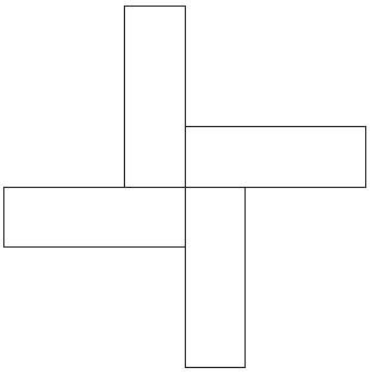


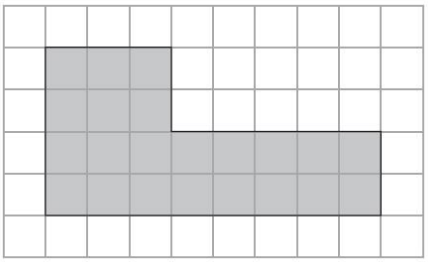
Diagram **NOT** accurately drawn

The 12-sided shape below is made from 4 of these rectangles.



Work out the perimeter of the shape. ..... cm

The shaded shape is drawn on a grid of centimetre squares.



(a) Find the area of the shaded shape.

. . . . . cm^2

50.

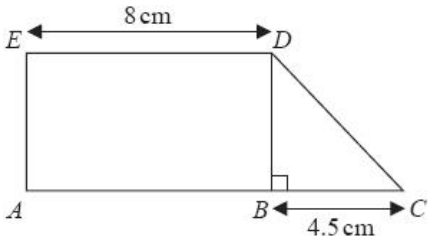


Diagram **NOT** accurately drawn

ABDE is a rectangle.
ED is 8cm.

BDC is a right-angled triangle.
BC is 4.5cm.

ABC is a straight line.

The area of the rectangle *ABDE* is 40cm^2.
Work out the area of the triangle *BDC*.

.....cm^2

51. The diagram shows the plan of a floor.

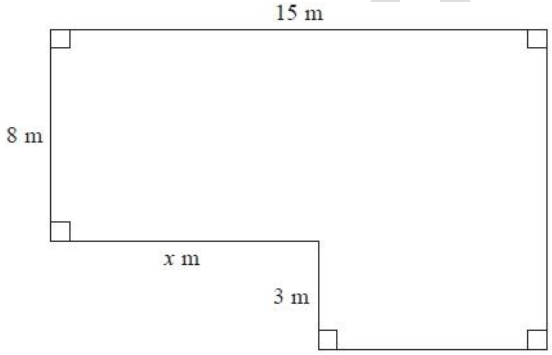


Diagram **NOT** accurately drawn

The area of the floor is 138 m^2.

Work out the value of *x*.

.....

52. Complete the following sentences by writing a sensible metric unit on each of the dotted lines.

(i) The length of a room is 4 .....

(ii) A full bottle contains 1.5 ..... of juice.

(iii) A notebook weighs 140 .....

53. Complete the following sentences by writing a sensible metric unit on each of the dotted lines.

(a) The length of a pen is 14 .....

(b) The weight of a television set is 16 .....

(c) The area of a classroom floor is 60 .....

Roberta has a jug containing 2 litres of juice. She pours 500 millilitres of juice from the jug into a glass.

(d) Work out the amount of juice still left in the jug.

You must give the units of your answer.

54. Given that x = -2

a. $x^2 + 4$ .....

b. $x^2 - 7$ .....

c. $2x^2 + 5$ .....