Class VIII Total Marks: 300

EDUDIGM

Bengal Talent Search Examination

Instructions:

1) Write your name on the questions paper and fill the OMR sheet immediately.
2) Do not start writing unless instructed
3) Use of calculators or other gadgets is not allowed.
4) There is no negative marking
5) There will be **no** clarification given about the correctness or the meaning of a question. If you have any doubt you can make a comment in the answer script provided. If you feel that there is a different answer to the choices provided, write that on the answer script.
6) No Extra sheet will be provided for the rough work
7) Any question paper without the Candidate's name could be disqualified.
8) Any attempt of unfair means will lead to immediate cancellation of the paper.
9) A student's paper can be cancelled without assigning any reason.

Marking Scheme:

1) Section I contains 50 questions. Each question carries 3 marks.
2) Section II contains 40 questions. Each question carries 2.5 marks.
3) Section III contains 10 questions. Each question carries variable marks as: 1-3, 2-6, 3-6, 4-5, 5-4, 6-4, 7-4, 8-6, 9-8, 10-4

Candidate's Name:

Duration: 2:00 Hrs.

Section-I

This section contains 40 Mathematics and Aptitude questions

Directions: In question 1 to 5 fill the question mark by one of the four alternatives (a, b, c, d) given under the question so that it satisfies the same relationship as is found between the two terms to the left of the sign (::).

1. Barometer: Pressure: : Thermometer : ?

(a) Heat (b) Mercury

(c) Thermoscope (d) Temperature

2. Umbrella: Sunshine : : Ozone?

(a) Infra-red rays (b) Light rays

(c) Ultra violet rays (d) X-rays

3. Night blindness : vitamin –A : : scurvy : ?

(a) Vitamin –B (b) Iron

(c) Vitamin –C (d)Iiodine

4. Teeth: Chatter: : Hand: ?

(a) Shake (b) Clap

c) Wave (d) Writing

5. Surface: Line: : Line : ?

(a) Solid (b) Plane

(c) String (d) Point

Directions: In each of the following questions (6 to 10) the numbers are arranged in a particular order. There is a (?) in each of the following questions. Choose the missing number from the given alternatives and write its serial number on your answer sheet

6. 1, 3, 5, 7, 13, 12, 25, 18, ?

(a) 25 (b) 30 (c) 37 (d) 41

7. 3, 6, 12, 15, 30, 33, ?

(a) 36 (b) 39 (c) 60 (d) 66

8. 2, 9, 28, 65, 126, ?

(a) 187 (b) 217 (c) 242 (d) 244

9. 80, 63, 48, 35, 24, ?

(a) 13 (b) 15 (c) 17 (d) 19

10. 2, 5, 6, 8, 12, 14, 20, 23, ?

(a) 26 (b) 27 (c) 30 (d) 32

Directions: Out of the four choices given for each of the questions from 11 to 15, select one from the four alternatives (a, b, c, d) which will maintain the same relaionship on the two sides of the sign " : :" if it is substituted for the question mark '?'

16. ANO : DQR : : GTU : ?

(a) JWV (b) JWX (c) JKX (c) JKW

17. ADQN : BERO : : HKXQ: ?

(a) VILY (b) ILVY (c) FISV (d) FIVS

18. ZWTQ : QNKH : : UROL : ?

(a) JGDA (b) KIFC (c) MJFC (d) NKGD

19. HWJU : ETGR : : ? DSFQ

(a) IYKV (b) IXKV (c) ITGV (d) AQCN

20. MOQS : FHJL : : ? : OQSU

(a) DFHJ (b) CEGJ (c) SUWZ (d) IKMP

Directions: Questions from 16 to 25 mark the correct answer for each on the OMR sheet.

16. Amar is shorter than Bimal but not as short as Chaman. Dinesh is taller than Ekta who is not as short as Fatima. Ekta is shorter than Chaman. Who is shortest in the group?

(a) Amar (b) Ekta (c) Fatima (d) Bimal

17. In a class among the passed candidates in the annual examination, Arun's position is 12^{th} from top and 28^{th} from bottom. If fifteen students failed, how many students appeared in the examination?

(a) 51 (b) 52 (c) 53 (d) 54

18. Five boys are sitting in a row. Pramod is on the right of Mukesh. Naresh is on the left of Mukesh but is on the right of Virendra. Anand is on the right of Pramod. Which boy is on the extreme left?

(a) Virendra (b) Anand (c) Pramod (d) Mukesh

19. Rani is Jayant's sister. Monica is Jayant's mother. Dinesh is Monica's father. Lata is Dinesh's mother. How is Rani related to Lata?

(a) Daughter (b) Grand daughter

(c) Great grand daughter (d) Great grand mother

20. If Friday falls after two days of 15^{th} August, then what day will it be on the last day of August?

(a) Monday (b) Tuesday

(c) Thursday (d) Friday

21.Bimla is as old as Aruna but half as young as Fatima. Chameli is half the age of Aruna but is twice older than Divya. Which two ladies form the pair of the oldest and the youngest?

(a) Fatima and Divya (b) Fatima and Bimala

(c) Fatima and Aruna (d) Aruna and Divya

22. If 'a' stands for addition 'b' for substraction , 'g' for division and 'd' for multiplication, then what for does 6a7b10g5d3 stand?

(a) 4 (b) 5 (c) 6 (d) 7

23. If BACK is written as AZBJ, how is LACK written?

(a) JZBJ (b) KZBJ (c) LZBJ (d) MZBJ

24. If America is coded as ckgpkac, how will Germany be coded?

(a) ictkcma (b) ictlcma

(c) ictkcla (d) ictmopa

25. if M=13 and MAD = 18 what is MADAM equal to?

(a) 31 (b) 32 (c) 33 (d) 34

Directions: Select the alternative whose alphabets when placed at the missing places, complete the chain

26. a-cd-cda-dab-abc

(a) b b c d (b) b a a c (c) a a c d (d) b a c d

27.ab- bca-ab-bcb-a

(a) b a b a (b) c c a c (c) c b a c (d) b a b c

28.a-bca-bc-bcca-bc

(a) b b c a (b) b a c b (c) a b a a (D) a a b b

29.abc- bc-acab-a-c

(a) a b b b (b) b c b a (c) c c a b (d) c a bb

30.d-ba-badb-dc-dcb

(a) c b d d (b) b c a a (c) c c a a (d) a a c b

Directions for question 31-35: Column I in the following gives a word and column II gives its code against the word. You have to find out from amongst the four choices given for each question as to what is the corersponding code for each letter

Column I	Column II
B AL E	c d m k
W O R L D	g j y n c
A I R	k a n
S O C K	h b t g
L O V E R	d l g c n
S A L E	k b c d
C O I L	g c h a
V O I L E	g c l d a
G O L F	c q s g
D O N K E Y	x t d g j c

Which is the code letter for:

	(1)	(2)	(3)	(4)
31.L	c	d	c	f
32. O	c	f	g	h
33.V	j	k	l	m
34.E	c	d	c	f
35. R	k	l	m	n

Directions for questions 36-40: In the questions given below some relationships have been expressed through symbols which are defined as follows:

'×' stands from ' greater than'

Stands for 'not less than'

÷ stands for 'not equal to'

ϕ stands for 'equal to'

+ stands for 'not greater than'

Δ stands for 'less than'

Now answer the following questions:

36. If $a \times b \, \Delta \, c$, then:

(a) $a \, \Phi \, c \, \Delta \, b$ (b) $b\# \, a \times c$

(c) $b\#a \times c$ (d)$none \ of \ these$

37. If $a \div b \div c$, then

(a) $b \, \Delta \, c \times a$ (b) $b \times a \, \phi c$

(c) $c \times b \, \Delta \, a$ (d) $none \ of \ these$

38. If $a \, \Delta \, b \, \Delta c$, then

(a) $a \times c \times b$ (b) $b\#a \ \Delta c$

(c) $b \times a \, \Delta c$ (d) $c \times b \times a$

39. If $a + b + c$, it does not imply that:

(a) $a \, \phi$ b Δc (b) $c \, \phi b \, \Delta a$

(c) $a \, \Delta b \, \Delta c$ (d) $a \, \Delta b \, \phi c$

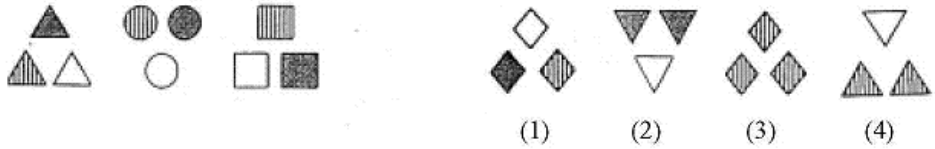
40. If $a\#b \times c$ it implies that

(a) $a \times c + b$ (b) $c \times b \times a$

(c) $b \times a \times c$ (d) $a \, \Delta b\#c$

Directions: In questions 61-65, select the answer figure which completes the given figure series

41.



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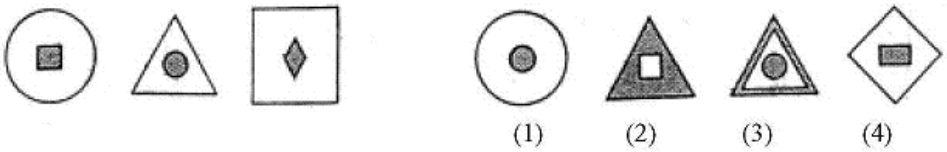

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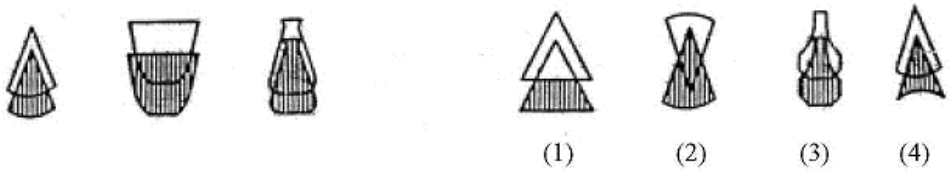
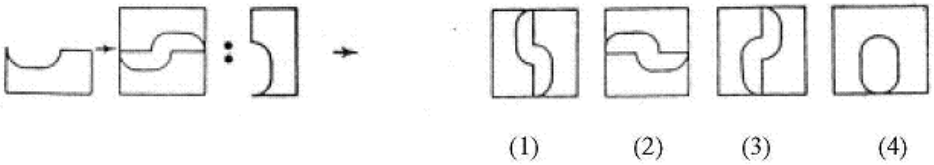


45.

Directions: In questions 66-70 select the answer figure which has the same relationship to the third figure which is between the first two figures on the left of:

46.

47.



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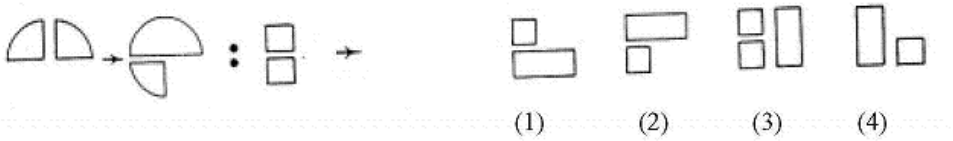

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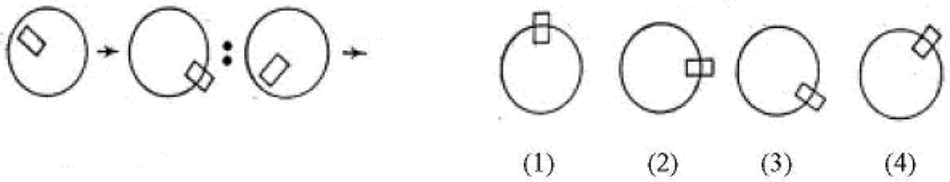


Section-II

This section contains 40 science based questions

1. Lizards belong to which animal group?

(a) amphibians (b) reptiles (c) invertebrates (d) mammals

2. H_2O is the chemical formula of:

(a) hydrogen peroxide (b) ozone (c) ammonia (d) water

3. The third planet from the sun is:

(a) Mercury (b) Mars (c) Earth (d) Venus

4. Entomology is the scientific study of:

(a) internal organs (b) meanings of words (c) insects (d) trees

5. The green pigment found in plants that performs photosynthesis is:

(a) melanin (b) chloroplast (c) chlorophyll (d) chromatophore

6. An android is a robot that:

(a) is made to resemble a human in some way

(b) was built by a machine or other robots

(c) can make decisions or think for itself to some extent

(d) has been built to perform multiple tasks

7. How many legs do insects have?

(a) 4 (b) 6 (c) some have 6, some have 8 (d) 8

8. The ozone layer protects us from too much:

(a) carbon dioxide (b) gamma radiation (c) ultraviolet radiation

(d) temperature fluctuation

9. Earth is located in a galaxy we call the Milky Way. The Milky Way is shaped like:

(a) a sphere (b) a plate (c) a corkscrew (d) a flattened spiral

10. An igneous rock is one:

(a) that formed as a result of temperature or pressure

(b) that formed from deposition of sediments

(c) which formed from cooled magma

(d) that fell from space as meteorite

11. Bacterial cells are different from plant and animal cells in that they:

(a) have no cell walls (b) do not have organelles

(c) cannot move (d) do not contain DNA

12. The asteroid belt is located between:

(a) Mars and Jupiter (b) Earth and Mars (c) Jupiter and Saturn

(d) Venus and Earth

13. The primary function of xylem in plants is to:

(a) exchange oxygen and carbon dioxide (b) transport water and minerals

(c) perform photosynthesis (d) store glucose

14. The most abundant element in the universe is:

(a) helium (b) hydrogen (c) carbon (d) silicon

15. Some soils hold water better than others. The difference is caused by:

(a) the heaviness of the grains of soil.

(b) the size of the grains of soil.

(c) the size of the spaces between the grains of soil.

(d) the temperature of the water as it enters the soil.

16. Recycling refers to:

(a) burning trash completely

(b) burying trash in a landfill

(c) reducing the amount of waste left over from using a product

(d) reusing a resource to make something new

17. Which of the following usually is not a way to conserve water during a water shortage?

(a) taking a shower instead of a bath

(b) fixing leaky faucets

(c) turning off the water while brushing your teeth

(d) waiting until you have enough dishes to fill the dishwasher before running it

18. Which of the following is an example of matter?

(a) atoms of the element carbon

(b) a block of wood

(c) my house

(d) All of the above are examples of matter

19. Grass appears green because:

(a) It absorbs green light.

(b) It reflects green light back to your eyes.

(c) It reflects red light back to your eyes.

(d) It reflects all the colours

20. A simple machine:

(a) increases the amount of work required to perform a task.

(b) decreases the amount of work required to perform a task.

(c) requires the same amount of work to complete a task but is automated so that it does the work for you.

(d) reduces the force or effort required to do a task or changes the direction of force used to perform a task.

21. A solar eclipse occurs when:

(a) the Earth's shadow falls on the moon.

(b) the moon's shadow falls on the Earth.

(c) the Earth moves between the sun and the moon.

(d) Venus is between the sun and the Earth.

22. A plant is an example of a producer. Producers are living organisms that:

(a) make their own food

(b) break down dead organisms for food

(c) eat other organisms for food

(d) none of these

23. Which planet is the brightest object in the sky, after the sun and moon?

(a) Mercury (b) Venus (c) Mars (d) Jupiter

24. Dinosaurs appear to have become extinct as a result of:

(a) a meteorite impact

(b) a viral infection

(c) a volcanic eruption

(d) a climate change resulting from a change in solar activity

25. Which of the following elements is not a noble gas?

(a) helium (b) neon (c) argon (d) boron

26. An opposum is a:

(a) rodent. (b) marsupial.

(c) member of the squirrel family.

(d) species of animal that hibernates in the winter.

27. What is the name given to the simple machine that uses grooved wheels and a rope to move, raise, or lower a load?

(a) wheel and axle (b) pulley (c) lever (d) inclined plane

28. Which part of a cell is responsible for making proteins?

(a) mitochondria (b) ribosomes (c) lysosomes (d) nucleus

29. Which of the following is a unit of power?

(a) newton (b) watt (c) joule (d) ampere

30. The organ that produces insulin for the body is the:

(a) liver (b) kidney (c) pancreas (d) spleen

31. A huge ocean wave that may be caused by earthquakes, often under the ocean floor, is called a:

(a) cyclone (b) magma (c) tsunami (d) rip tide

32. Which of the following is an example of a producer?

(a) mushroom (b) grass (c) cow (d) snake

33. Hot molten rock under the surface of the earth is called:

(a) magma (b) lava (c) petroleum (d) geyser

34. The semipermeable membrane which encloses the cytoplasm of plant and animal cells is called the:

(a) endoplasmic reticulum (b) nuclear membrane

(c) cell wall (d) cell membrane

35. Helium is an example of:

(a) a halogen (b) an element (c) an alloy (d) a compound

36. Which of the following clouds might produce rain?

(a) all clouds can produce rain (b) cirrus

(c) cumulonimbus (d) cirrostratus

37. The seasons are caused by:

(a) change in distance to the Sun

(b) the tilt of the Earth's axis of rotation

(c) the magnetic poles switching direction

(d) the phase of the moon

38. Unlike most other fish, sharks have no:

a) Bones b) Teeth c) Gills d) Liver

39. Charles Darwin began developing his theory of evolution while voyaging on a ship named:

a) The Enterprise b) The Beagle c) The Santa Maria d) The Endeavour

40. What is special about Sirius, the Dog Star?

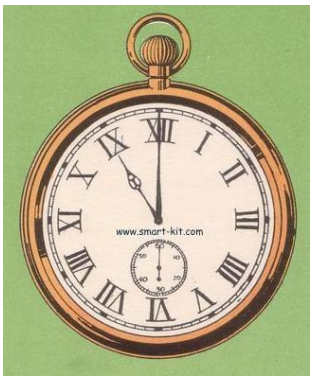
a) It is the only star first observed by Albert Einstein

b) It is the brightest star in the night sky

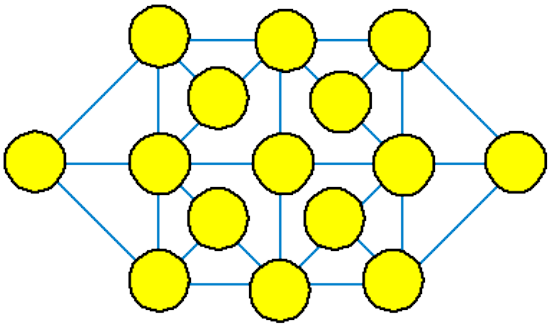
c) It always lies directly above the North Pole

d) It emits staccato barking sounds which radio telescopes can detect

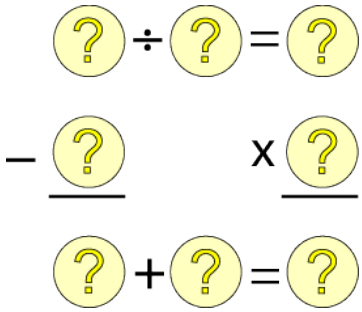
1) Point out the mistake in the image here



2) Can you put the numbers from 1 to 15 on the circles so that no consecutive numbers lie anywhere along a continuous straight line? (Consecutive numbers are numbers that follow each other, or come before each other, when we are counting in ones)



3) Can you put the numbers 1 - 8 into the circles so that the 4 calculations are correct?



4) There are 12 plates with 3 identical biscuits on each plate.

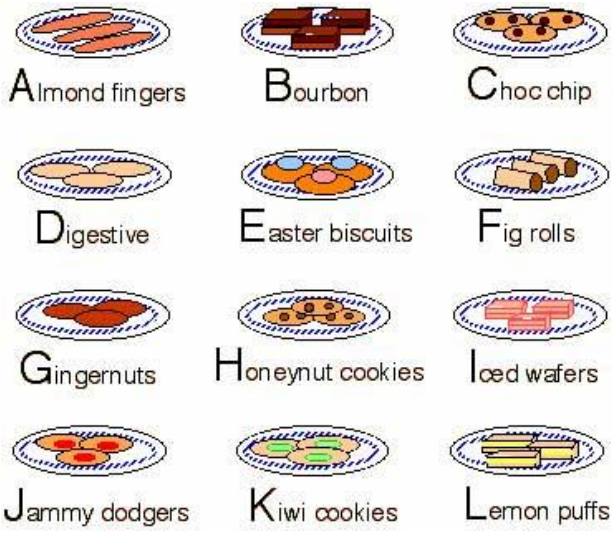
(These are named simply to help identify them by a letter!)

Can you rearrange the biscuits on the plates so that

1. The 3 biscuits on each plate are all different and

2. There is no plate with two biscuits the same as two biscuits on another plate?

For example, if you have one plate of "A, D and F" then you cannot have another with both "A and D" or "A and F" or "D and F".

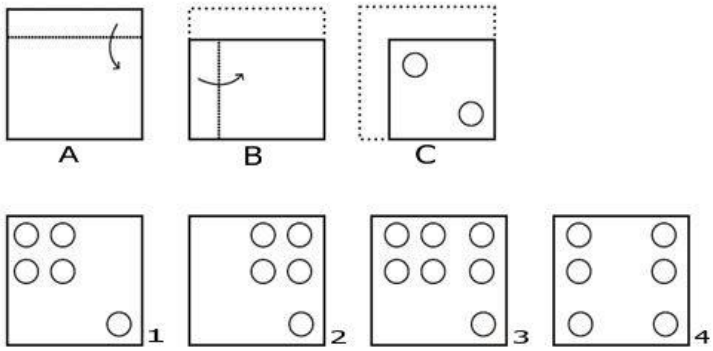


5) Using the digits 1 up to 9, two numbers must be made. The product of these two numbers should be as large as possible. All digits must be used exactly once. Which are the requested two numbers**?**

6) A hundred square has been printed on both sides of a piece of paper. One square is directly behind the other. What is on the back of 23?

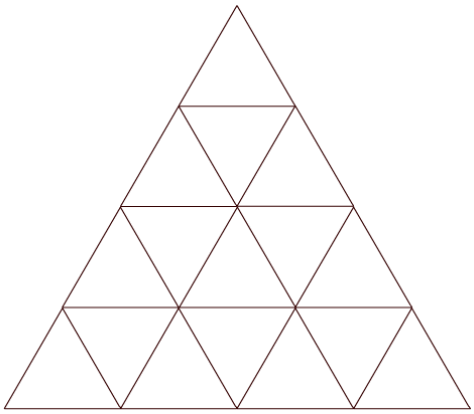
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

7) The three figures below show a sequence by which a piece of paper has been folded. The last figure shows how this folded paper has been cut.



Which pattern (1-4) most closely resembles the unfolded form of figure C?

8) Count the number of triangles here in the figure.



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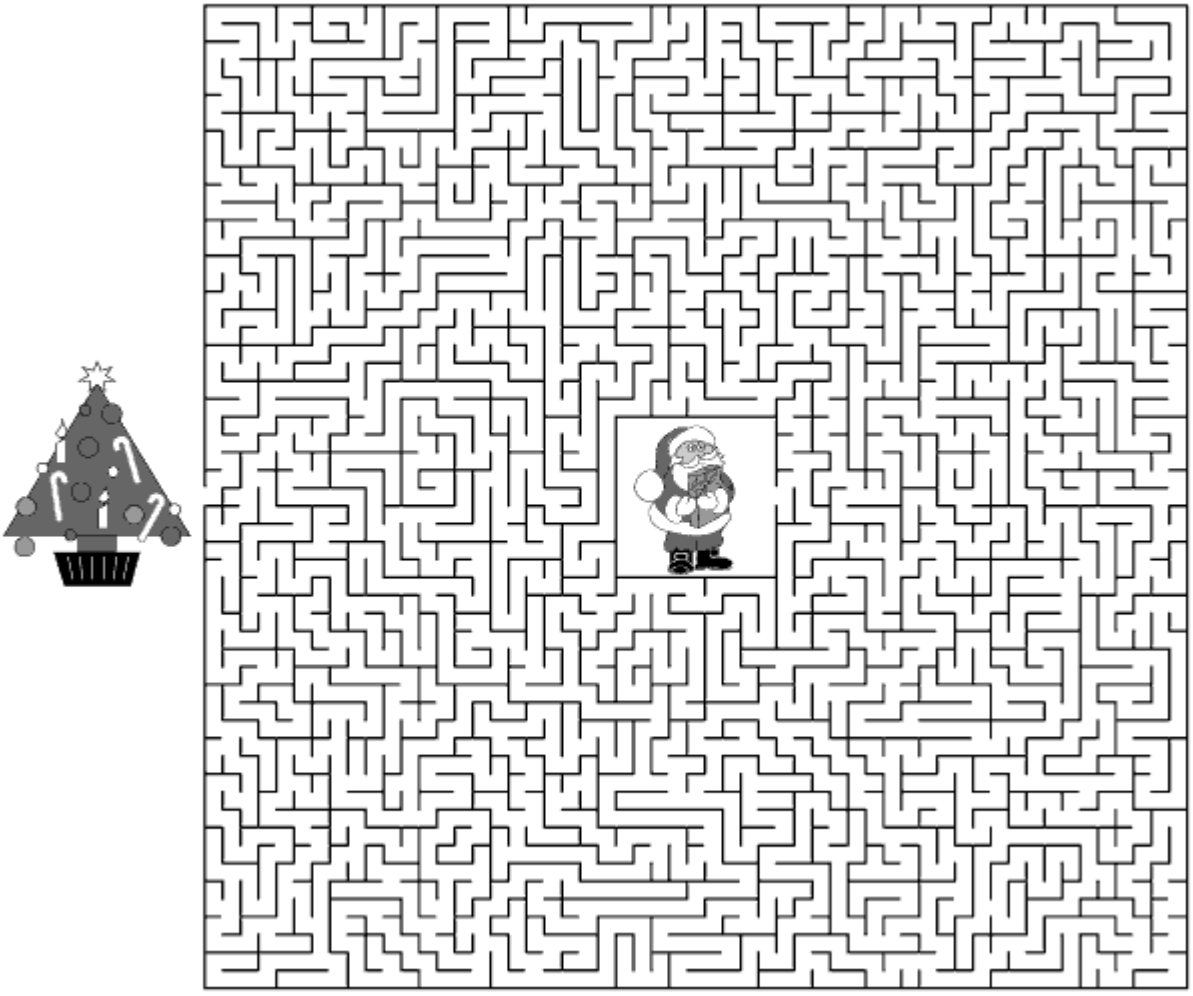
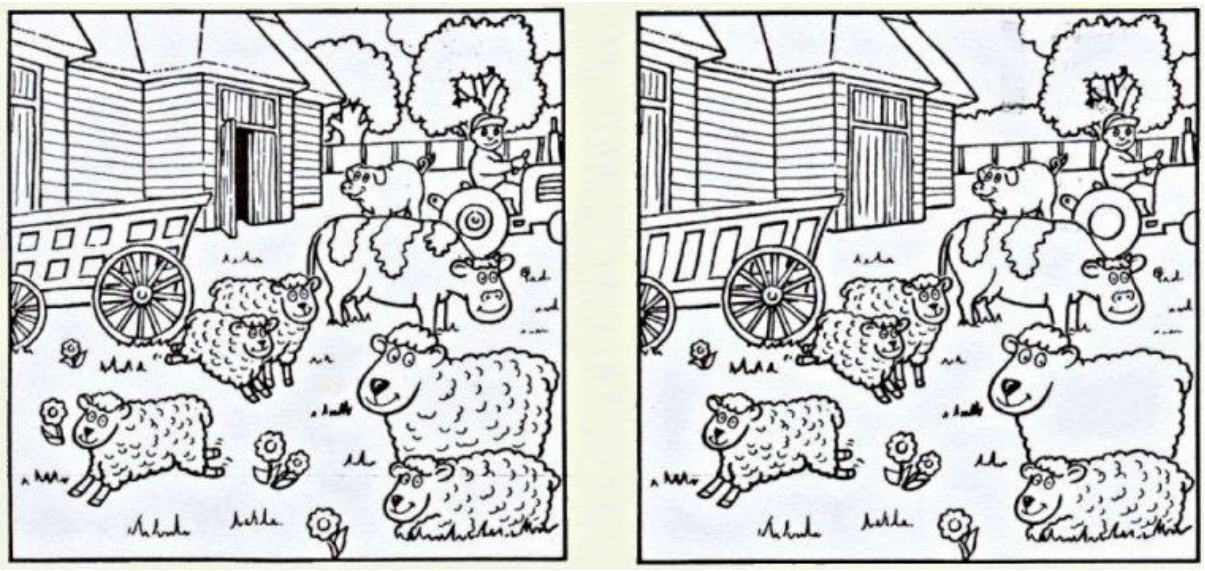
10) Spot 8 differences…