Unit 1 test

1) Choose the correct answer from the following:

a- One of students take a time of 10 minutes to transfer from its home to its school moving by average velocity 2m/sec ,which of the following equals the distance between its home and the school.

1- 84 m 2- 48 m 3- 1.2k m 4- 3.6k m

b- Which of the following graphical relations represents the moving of the body by uniform acceleration?

c- In the following figure, a body starts its motion from point (a) to the south to point (b) it covers a distance 40 meters then it directs east to point (c) at a distance 30 meters From point (b) , so

a) The amount of body displacement equals:

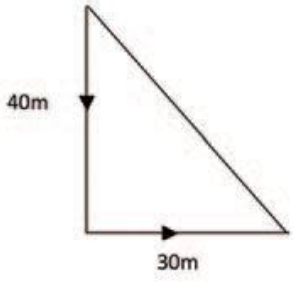
1- The length ab 2- The length bc

3- The length ac 4- The length ab +bc

b) The length of the distance covered equals:

1- The length 2- The length bc

3- The length ac 4- The length ab +bc



d- The two factors can be used to describe the body motion are:

1- speed and time 2- distance and time

3- area and time 4- displacement and speed

e-The uniform speed of a car is 72km/hour so its speed equals :

1-20 m/sec 2- 25 m/sec 3-18 m/sec 4- 40 m/sec

2) Give reason for the following scientifically:

a) The most moving cars cannot move inside crowded towns all the time by uniform velocity.

b) The moving car seems stable to the rider of another moving car beside it with the same speed and direction.

c) The speed of moving body increases by decreasing the time needed to cover a certain displacement.

d) physicists using mathematical methods like graphics and tables.

e) The velocity is a vector physical quantity.

3) Problems:

a) A driver used the brake to stop the car moved by 20 m/sec. Calculate the time taken by the car to stop after moving 200 m.

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b) If a boat starts to move from rest till its speed become 2.5 m/sec. through 5 sec. Find:

1- The acceleration of the moving boat.

2- The type of the acceleration, give reason.

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Unit 2 test

1) Choose the correct answer from the following:

a- A body is placed in front of concave mirror at a certain distance from its pole, no image is formed on the screen, that is due to the body is :
1- transparent 2-placed on infinite distance in front of the mirror
3- opaque 4- placed on a distance less than focal length of the mirror
b- The Romans use a huge optical piece to burn the sails of enemies' ships by usage sun rays, what is the suitable optical piece to do that?
1-convex mirror 2- concave mirror
3-convex lens 4-concave lens
c- The image of the body formed behind the plane mirror is always:
1-virual-enlargement - erect 2-real- diminished-inverted
3-real-equal-reversed 4-virual-equal -erect
e- The focal length of a concave mirror equals 10 cm, to obtain a virtual image, the body is placed at a distance from the mirror pole equals
1- 10 cm 2- 15 cm 3- 20 cm 4- 5 cm
f- In a lens the radius of curvature equals 20 cm, so its focal length equals
1- 5 m 2- 10 cm 3- 20 cm 4- 10 m

2) Give reasons:

a- The shortsighted person requires medical glasses with concave lenses.
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b- The perpendicular incident light ray on the plane mirror reflects on itself.
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c- Most of the people cannot write by correct way while they are seeing their writings through plane mirror.
……

d- It is impossible to obtain real image by using concave mirror only.
……
e- The lens has two centers of curvature (M1 ,M2)
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3) Problems:

a- A convex lens with a focal length of 10 cm , an object was placed at a distance of 20 cm from the lens. Assign the distance of the object's image from the lens and mention its properties.
……

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b- One of the students makes the lens near to one of its eyes and see through
it, he observes that the image of objects seems erect . After the lens becomes far to a certain distance from one of its eye he observes that the image of objects seems inverted. The student concludes that the lens must convergent
a) Is the conclusion of the student correct or incorrect?
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b) Explain your answer

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First term tests Science, 3 rd prep.

Unit 3 test

1) Put a (√) in front of the correct sentences and correct the underline in the false ones:

a- The solar system is located at the edge of the Milky Way Galaxy. ( )
b- The universe contains various galaxies that move away from each other. ( )
c- Eight planets including the Earth rotate around the galaxy. ( )
d- Galaxies rotate in a system around the centre of the universe. ( )
e- Jupiter rotates around itself once every 59 earthly days. ( )
f- The Earth rotates in a fixed orbit due to the effect of the Earth's gravity. ( )
g- Galaxies move away in the cosmic space. ( )

2) Give reasons for each the following:

a- The continuous expansion of space.
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b- The constancy of the Earth's rotation in an orbit around the sun.
……
c- The difference in the day due to the difference of the planet.
……
d- The difference in the year due to the difference of the planet.
……
e- Galaxies move away from each other.
……

3) Write a paragraph illustrates each of the following:

a- The crossing star theory.
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……
b- The nebula.
……
……
c- The modern theory.
……
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4) Compare between each of the following:

a- Open and closed universe.
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……
b- The day and the year.
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Unit 4 test

1 Put a (√) in front of the correct statements and correct the false ones:

a- Somatic cells are divided by meiosis division which leads to the growth of living organisms and compensation of the damaged cells.
b- Reproductive cells are divided by mitosis which leads to the formation of gametes.
c- Chromatin reticulum intensifies and appears in the form of long, thin and double strings (chromosomes) in the telophase of the mitosis division.
d- Meiosis results in the formation of two cells; each contains half the genetic material of the parental cell.
e- The asexual reproduction produced living organisms similar in their genetic structure.
f- Gametes in living organisms are produced by special cells known as the somatic cells of the meiotic division.

2) Write the scientific terms for each of the following statements:

a- A phase in which some important vital processes occur which prepare the cell for division and the genetic material in the cell are doubled.
b- A phase in which the chromosomes migrate towards the cell equator where each chromosome is connected with one of the spindle fibers at the centromere.
c- A phase where some processes occur upon which the formation of chromosomes that equal in numbers with the parental cell take place.
d- It contributes in genes exchanging between the chromosome's chromatids and distributing them in the gametes.
e- A cell division that occurs in the somatic cells and results in the growth of the living organism.
f- The results from the combination of a male gamete and a female gamete and it contains the diploid number of chromosomes (2N) of the living organism.

3) Compare between each of the following :

a- Meiosis and mitosis.

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b- Sexual reproduction and asexual reproduction.

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4) What is the relation between the genetic structure for each of offspring and parents and give the reason in the following cases:

a- Binary fission in paramecium.

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b- The plant resulted from germination of seeds.

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First term test

1- Complete the following phrases:

a- Speed measuring unit is ..... and the acceleration measuring unit is the.....
b-The somatic cells divide by ..... while the reproductive cells divide by.....
c- The crossing over phenomena takes place during..... of the ..... division.
d- The stars move in fixed orbits around the centre of the.....
e- From the examples of asexual reproduction, budding in …….... fungus.

2- Write the scientific term for each of the following statements:

a- A point located inside the lens on the principal axis and at the mid distance between its faces.
b- A process in which the living organism produces individuals with hereditary traits different from the parents.
c-The amount of change in the body's speed in a second.
d-The unit that is used to measure the distances between the celestial bodies.
e-The results from the combination of a male gamete and a female gamete and it contains the diploid number of chromosomes (2N) of the living organism.

3-a- A concave lens with a focal length of 10 cm , an object was placed at a distance of 20 cm from the lens. Assign the distance of the object's image from the lens and mention its properties.

b- Place the sign (√) in font of the correct phrases and correct the incorrect:

a- The incident light ray parallel to the principal axis of a concave mirror is reflected passing by the curvature centre of the mirror.
b- The aim of the mitosis division is the formation of gametes.
c- When a moving object travels equal distances in equal time intervals, it is said that it is moving at a regular acceleration.

4-a- A person stands in front of a plane mirror at a distance of 10 m. What is the distance he must move so that the distance between him and his image become 6 m.?

b- A race car can move from stationary position and its speed reaches 100 km. through 20 seconds. Calculate the acceleration of the car.

5- What happens when:

a- A plane mirror is placed at the left side of the driver instead of the convex one mirror.
b- A light ray incident by an angle 35^{o} on a plane mirror.
c- The nucleus of the cell is removed.
d- Putting yeast fungus in a warm sugary solution.
e- The gravity between the planets rotate around the sun is vanished.