Assessment

Physics: Lesson 14

Question 1

?Which of the following is the SI unit for heat

J .A

N .B

Watt .C

m/s .D

Question 2

?Which of the following is the SI unit for absolute temperature

F° .A

C° .B

K .C

J .D

Question 3

.Convert 60°F to Celsius

A. 15.5°C

B. 140°C

C. 333°C

D. 0°C

1: من الآلة الحاسبة: shift → 8 → 3 7

= 15.5°C

2: $T_C = \frac{5}{9}(T_F - 32)$

= 15.5°C

Question 4

.Convert 20°F to Celsius

A. 68°C

B. 293°C

C. -6.67°C

D. 0°C

نفس طريقة السؤال السابق :

= -6.67°C

Question 5

.Convert 40°F to Celsius

A. 104°C

B. 4.44°C

نفس طريقة السؤال السابق

C. 313.°C

D. 0°C

Question 6

.Convert 90°C to Fahrenheit

A. 194°F

B. 32°F

C. 363°F

D. 0°F

1: إلى الآلة الحاسبة :

shift → 8 → 3 8

= 194f

2 :

$T_f = \frac{9}{5}(T_c + 32)$

Question 7

.Convert 100°C to Fahrenheit

A. 37.8°F

B. 373°F

C. 212°F

D. 0°F

نفس طريقة السؤال السابق

Question 8

.Convert 130°C to Fahrenheit

A. 54.4°F

B. 403°F

C. 266°F

D. 0°F

لنفس طريقة السؤال السابق :

Question 9

.Convert 140°C to kelvin

A. 413 K

140 + 273 = 413

B. 60 K

C. 284 K

D. 0 K

Question 10

Find the amount of heat in kcal generated by 7510 J .of work

A. 1.43 kcal

B. 1.79 kcal

C. 8.11 kcal

D. 31.7 kcal

بالآلة الحاسبة:

shift → 8 → 3 9

= 1794 c

تحول الى كيلو كالوري = 1.794

بالطريقة الطويلة:

$$7510\,J \times \frac{1\ Kcal}{4190\,J}$$

$$= 1.79\ Kcal$$

Assessment

Physics: Lesson 15

Question 1

When a solid undergoes a change of phase into a liquid this is called

Melting .A

Freezing .B

Vaporizing .C

Boiling .D

Question 2

When a liquid undergoes a change of phase into a solid this is called

Melting .A

Freezing .B

Vaporizing .C

Boiling .D

Question 3

When a liquid undergoes a change of phase into a gas this is called

Melting .A

Freezing .B

Vaporizing .C

Boiling .D

Question 4

What heat is needed to change the temperature of 10 kg of water (c = ?1.00 kcal/kg degree-C) from 10 to 20 degrees-C

A. 10 kcal

B. 200 kcal

C. 100 kcal

D. 419 kcal

$Q = cm\Delta T$

$= 1 \times 10 \times 10$

$= 100$ kcal

Question 5

How many calories of heat are given off by 10 g of steam at 100 degrees C to condense to water at 100 degrees C? (L-vaporization = 540 cal/g)

$L_v = \frac{Q}{m}$

$Q = L_v \times m$

$= 540 \times 10$

A. 540 cal

B. 540000 cal

C. 54000 cal

D. 5400 cal

Question 6

It takes 100,000 J of heat to raise the temperature of water from 10°C to 11°C. What is the mass of the water? The specific heat of water is 4186 .J/(kg°C)

A. 23.9 kg

B. 4186 kg

C. 1.2 kg

D. 4.186 kg

$Q = cm\Delta T$

$m = \frac{Q}{c\Delta T}$

$m = \frac{100000}{4186 \times 1}$

$= 23.9\ kg$

Question 7

How much heat is needed to raise the temperature of 4 kg of water .from 20°C to 30°C? The specific heat of water is 4186 J/(kg°C)

m

ΔT

C

$Q = cm\Delta T$

$Q = 4186 \times 4 \times 10$

$= 167440\ J$

A. 16,744 J

B. 4186 J

C. 502,320 J

D. 167,440 J

Question 8

How much heat is needed to raise the temperature of 6 kg of marble .from 10°C to 30°C? The specific heat of marble is 880 J/(kg°C)

نفس طريقة السؤال السابق :

A. 5280 J

B. 105,600 J

C. 10,560 J

D. 52,800 J

Question 9

What is the change in temperature (ΔT) of 4 kg (m) of water if it takes 1,000,000 J (Q) of heat? The specific heat of water is 4186 J/(kg°C) (c)

A. 238.9°C

B. 59.7°C

C. 10.5°C

D. 0°C

$$Q = cm\Delta T$$

$$\Delta T = \frac{Q}{cm}$$

$$= \frac{1000000}{4 \times 4186}$$

$$= 59.7\,C$$

Question 10

What is the change in temperature of 14 kg of water if it takes 100,000 J .of heat? The specific heat of water is 4186 J/(kg°C)

A. 23.9°C

→ نفس طريقة السؤال السابق

B. 17.1°C

C. 0°C

D. 1.7°C

Assessment

Physics: Lesson 16

Question 3

An example of an elastic material is

Cement .A

Clay .B

Dough .C

Rubber ball .D

Question 4

How much force is needed to pull a spring 0.25 m if the spring constant ?is equal to 10 N/m

A. 40 N

B. 10 N

C. 0.25 N

D. 2.5 N

Question 5

How much force is needed to pull a spring 0.25 m if the spring constant ?is equal to 20 N/m

A. 80 N

B. 5 N

C. 20 N

D. 0.25 N

Question 6

How much force is needed to pull a spring 0.5 m if the spring constant is ?equal to 1 N/m

A. 0.5 N

B. 1 N

C. 2 N

D. 1.5 N

Question 7

How far does a spring with a spring constant of 100 N/m compress if 2 N ?of force is used to compress it

A. 0.2 m

B. 0.02 m

$\frac{2}{100} = 0.02$

C. 1 m

D. 2 m

Question 8

How far does a spring with a spring constant of 100 N/m compress if ?20 N of force is used to compress it

m 0.2 .A

B. 2 m

$\frac{20}{100} = 0.2$

C. 20 m

D. 1 m

Question 9

What is the spring constant of a spring that is compressed 0.4 m if 20 N ?of force is used to compress it

A. 1 N/m

B. 5 N/m

C. 0.5 N/m

D. 50 N/m

$\frac{20}{0.4} = 50$

Question 10

A cube of iron of 10-cm sides weighs 60 N. The stress it exerts on a flat :surface is

$A = 10 \times 10 = 100 cm^2$

$= 0.01 m^2$

حولنا الى متر عشان الخيارات بالكتاب

F

$S = \frac{F}{A}$

$= \frac{60}{0.01}$

$= 6000 PA$

A. 60 Pa

B. 600 Pa

C. 6000 Pa

D. 60,000 Pa

Assessment

Physics: Lesson 17

Question 2

.is defined as a mass per unit volume _____

Mass density .A

Weight density .B

Weight .C

Answer not present .D

Question 3

.is defined as a weight per unit volume _____

Mass density .A

Weight density .B

Mass .C

Answer not present .D

Question 4

Find the weight density of a block of wood 3.00 in. × 2.00 in. × 5.00 in. .with a weight of 0.300 lb

A. 17.28 lb/ft^3

B. 0.01 lb/ft^3

C. 100.0 lb/ft^3

D. 1.00 lb/ft^3

$$D_w = \frac{W}{V}$$

$$= \frac{0.300}{3 \times 2 \times 5}$$

$$= 0.01 \text{ lb/in}^3 \times (12)^3$$

$$= 17.28 \text{ lb/ft}^3$$

Question 5

Find the weight density of a block of wood 0.20 m × 0.20 m × 0.40 m .with a weight of 67.2 N

A. 1.07 N/m³

B. 1680 N/m³

C. 4200 N/m³

D. 2.69 N/m³

$$D_w = \frac{w}{V}$$

$$= \frac{67.2}{0.20 \times 0.20 \times 0.40} = 4200 N/m^3$$

Question 6

0.02 m

Find the mass density of a sphere of wood with a 2.00 cm. radius and a .mass of 0.500 Kg

$V = \frac{4}{3}\pi (r)^3$

A. 14921 Kg/m³

$D_m = \frac{0.500}{\frac{4}{3}\pi (0.02)^3}$

B. 5.97 Kg/m³

C. 0.0597 Kg/m³

D. 1 Kg/m³

Question 7

Find the mass density of a sphere of wood with a 0.03 m radius and a .mass of 0.100 Kg

A. 1 Kg/m^3

B. 0.796 Kg/m^3

C. 0.00796 Kg/m^3

D. 884 kg/m^3

$$D_m = \frac{0.100}{\frac{4}{3}\pi (0.03)^3}$$

Question 8

Find the weight density of a can of oil (2 quart) weighing 1.50 lb. (1 .quart = 0.03342 ft^3)

$$D_w = \frac{w}{V}$$

$$= \frac{1.50}{2 \times 0.03342}$$

$$= 22.4 \, lb/ft^3$$

A. 1296 lb/ft^3

B. 22.4 lb/ft^3

lb/ft^3 44.8 .C

lb/ft^3 77.1 .D

Question 9

Copper has a mass density of 8890 kg/m^3. Find its mass density in g/.cm^3

$8890\,kg/m^3 \times 1000 = 8890000\,g/m^3$

$8890000\,g/m^3 \div 10^6 = 8.89\,g/cm^3$

A. 0.889 g/cm^3

B. 889 g/cm^3

C. 88.9 g/cm^3

D. 8.89 g/cm^3

Question 10

A quantity of gasoline weighs 33.3 N with weight density 6660 N/m³. Find .its volume

A. 2.50×10^{-3} m³

B. 5.00×10^{-3} m³

C. 2.00×10^{2} m³

D. 1.00×10^{-3} m³

$$D_w = \frac{w}{V}$$

$$V = \frac{w}{D_w}$$

$$= \frac{33.3}{6660}$$

$$= 5 \times 10^{-3} \text{ m}^3$$

Assessment

Physics: Lesson 18

Question 1

?Which electric charge has lines of force drawn away from the charge

Positive .A

Negative .B

Neutral .C

None of the charges .D

Question 2

Which of the following is the correct statement about the fundamental ?characteristic of electric charges

A. Like charges repel and attract each other.

B. Unlike charges repel and like charges attract each other.

C. Like and unlike charges neither attract nor repel.

D. Like charges repel and unlike charges attract each other.

Question 3

?is the SI unit for charge _____

J .A

N .B

W .C

C .D

Question 4

:A positively charged object is an object with

A. extra electrons

B. lack of electrons

C. extra neutrons

D. lack of protons

Question 5

6.5×10^{-6} C

Two charges, each with magnitude + 6.50 μC, are separated by a .distance of 0.400 cm. Find the force of repulsion between them

4×10^{-3} m

A. 3.65×10^{-9} N

B. 9.50×10^{-17} N

C. 2.38×10^{4} N

D. 1.46×10^{-11} N

$$F = k \frac{q_1 q_2}{r^2}$$

$$= 9 \times 10^{9} \frac{6.5 \times 10^{-6} \times 6.5 \times 10^{-6}}{(4 \times 10^{-3})^2}$$

$$= 2.38 \times 10^{4}$$

Question 6

What is the electrostatic force between two charges of +6 nC and +1 nC ?if they are separated by a distance of 2 mm

6×10^{-9} 1×10^{-9} 2×10^{-3}

A. 6.91×10^{-10} N

B. 1.03×10^{-2} N

→ نفس طريقة السؤال السابق

C. 1.06×10^{-4} N

D. 1.35×10^{-2} N

Question 7

4×10^{-9} C 3×10^{-9} C

Calculate the distance between two charges of +4 nC and −3 nC if .the electrostatic force between them is 0.005 N

A. 6.50×10^{-6} m

B. $8.67 \times 10^{+7}$ m

C. 46.0×10^{-3} m

D. 4.6×10^{-3} m

$$F = k \frac{q_1 q_2}{r^2}$$

$$r = \sqrt{\frac{k q_1 q_2}{F}}$$

$$= 4.64 \times 10^{-3} \text{ m}$$

Question 8

Find the magnitude of the electric field in which a negative charge of $10^{-8} \times 3$ C experiences a force of 0.06 N

A. $2 \times 10^{+6}$ N/C

B. 5×10^{-9} N/C

C. 6×10^{-3} N/C

D. 3×10^{-3} N/C

$$E = \frac{F}{q}$$

$$= \frac{0.06}{3 \times 10^{-8}}$$

$$= 2 \times 10^{6} \text{ N/C}$$

Question 9

What force is exerted on a test charge of 4×10^{-5} C if it is placed in an electric ?field of magnitude 2×10^{4} N/C

A. 22 N

B. 8 N

C. 0.8 N

D. 80 N

$$E = \frac{F}{q}$$

$$F = Eq$$

$$= 2 \times 10^{4} \times 4 \times 10^{-5}$$

$$= 0.8\ N$$

Question 10

An electric field of magnitude 0.4 N/C exerts a force of 8×10^{-4} N on a test ?charge placed in the field. What is the magnitude of the test charge

$$E = \frac{F}{q}$$

$$q = \frac{F}{E}$$

$$q = \frac{8 \times 10^{-4}}{0.4}$$

$$= 2 \times 10^{-3} C$$

C 1 .A

mC 2 .B

nC 3 .C

nC 2 .D

Assessment

Physics: Lesson 19

Question 1

.is the SI unit for current _____

Ω .A

V .B

J .C

A .D

Question 2

.is the SI unit for voltage _____

J .A

V .B

A .C

Ω .D

Question 3

.is the SI unit for resistance _____

V .A

A .B

J .C

Ω .D

Question 4

:Electric energy can be stored in a

A. switch

B. light bulb

C. capacitor

D. resistance

Question 5

When a capacitor is connected to a battery, the plate connected to the _____ _____ terminal becomes

A. positive, negative

B. negative, positive

C. positive, positive

D. positive, neutral

Question 6

:Ohm’s law states that

voltage = current − resistance .A

voltage = current + resistance .B

voltage = current ÷ resistance .C

voltage = current × resistance .D

Question 7

A torch lamp takes a current of 0.3 (I) amperes from a 3 (V) volt battery. What ?is its resistance

$V = IR$

$R = \frac{V}{I}$

$= \frac{3}{0.3} = 10\ \Omega$

A. 3 Ω

B. 10 Ω

Ω 20 .C

Ω 35 .D

Question 8

A heating element on an electric stove operating on 110 V has a ?resistance of 20.0 Ω. What current does it draw

$V = I R$

$I = \frac{V}{R}$

$= \frac{110}{20} = 5.5\ A$

A. 0.18 A

B. 2200 A

C. 5.5 A

D. 90 A

Question 9

A heating element on an electric stove operating on 130 V has a ?resistance of 20.0 Ω. What current does it draw

V

R

$V = IR$

$I = \frac{V}{R}$

$= \frac{130}{20} = 6.5A$

A. 110 A

B. 2600 A

C. 0.15 A

D. 6.5 A

Question 10

A 10.0 m copper wire (resistivity $1.72 \times 10^{-6}\ \Omega$ cm) has a cross-sectional area 9.5×10^{-3} cm^2. Its resistance is:

$R = \frac{\rho L}{A}$

$= \frac{1.72 \times 10^{-6} \times 1000}{9.5 \times 10^{-3}}$

$= 0.181\ \Omega$

$\Omega\ 10^{-1} \times 1.81$ .A

$\Omega\ 10^{-9} \times 1.63$ .B

$\Omega\ 10^{-7} \times 1.63$ .C

$\Omega\ 10^{+4} \times 5.52$ .D

Assessment

Physics: Lesson 20

Question 4

A soldering iron draws 20.50 A in a 120-V circuit. What is its ?wattage rating

I V

A. 5.85 W

B. 99.5 W

C. 0.171 W

D. 2460 W

$P = IV$

$= 20.50 \times 120$

$= 2460\ W$

Question 7

?What is the power of a 12-V heater with a resistance of 10Ω

A. 120 W

B. 2 W

C. 14.4 W

D. 12 W

$P = VI = V\left(\frac{V}{R}\right)$

$P = \frac{V^2}{R}$

$= \frac{12^2}{10}$

$= 14.4\,W$

Question 9

0.550 kW

An electric fire is rated at 550 W. How much would it cost to ?operate it for 5 h at $0.08/kWh

power

hour

cents

cost = power x hours x cents

= 0.550 x 5 x 0.08

= 0.22 $

A. $0.02

B. $2.2

C. $22

D. $0.22

Question 1

:In electricity, the kilowatt-hour is a unit of

A. electric current

B. electric energy

C. electric potential

D. electric power

Question 2

If a light bulb in a 440-V electric circuit draws 0.5 amperes, :its power rating is

V

I

$P = VI$

$= 440 \times 0.5$

$= 220W$

A. 220 W

B. 840 W

C. 40 W

D. 75 W

Question 3

:The rate of consuming energy is called

voltage .A

current .B

power .C

resistance .D

Question 5

A soldering iron draws 25.50 A in a 120-V circuit. What is its ?wattage rating

I V

$P = IV$

$= 25.50 \times 120$

$= 3060\,W$

A. 3060 W

B. 4.71 W

C. 0.213 W

D. 94.5 W

Question 6

A MP3 system draws 30.50 A in a 120-V circuit. What is its ?wattage rating

A. 3.93 W → نفس طريقة السؤال السابق

B. 3660 W

C. 0.254 W

D. 89.5 W

Question 8

An electric heater connected to the 230-V mains supply draws ?a current of 4A. What is the power of the electric heater

A. 920 W

نفس طريقة الاسئلة السابقة

B. 57.5 W

C. 230 W

D. 950 W

Question 10

0.250kW 0.5h

A TV needs 250 W. It is switched on for 30 minutes. If each kWh costs 8 ?cents, how much does it cost to run the TV

A. $2

B. 1 cent

C. 4 cents

D. 2 cents

cost = power x hour x cents

= 0.250 x 0.5 x 8

= 1 cents

Assessment

Physics: Lesson 21

Question 1

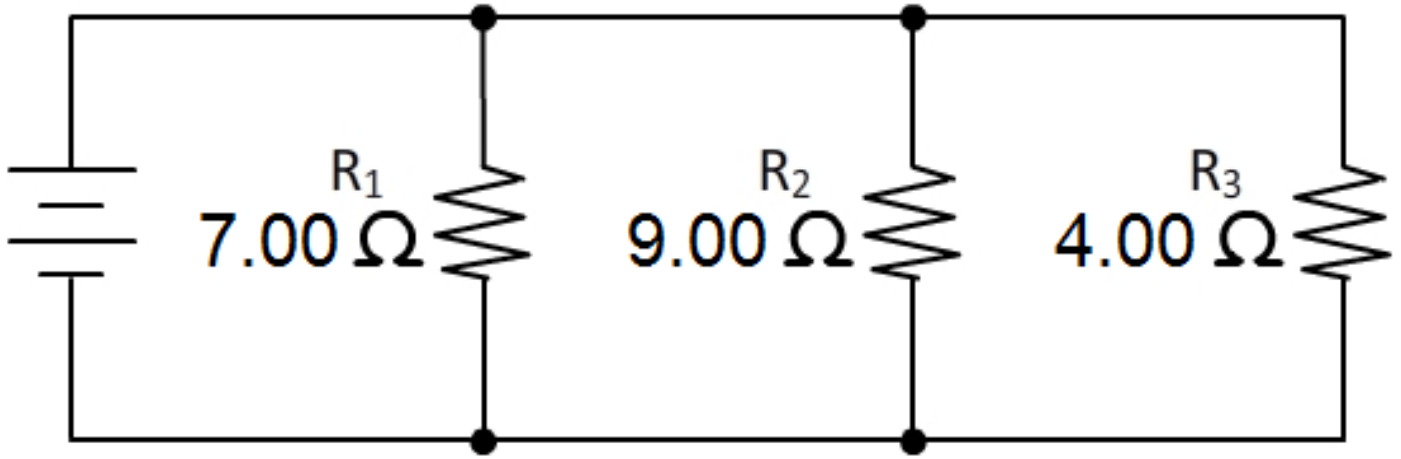
.Find the equivalent resistance of the circuit

A. 0.5 Ω

B. 20 Ω

C. 1.98 Ω

D. 0.05 Ω



$\frac{1}{R} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$ ← لانه توصيل على التوازي

$\frac{1}{7} + \frac{1}{9} + \frac{1}{4} = 0.5039\ldots$

نضغط x^{-1} بعدين يساوي بالالة الحاسبة = 1.98

Question 2

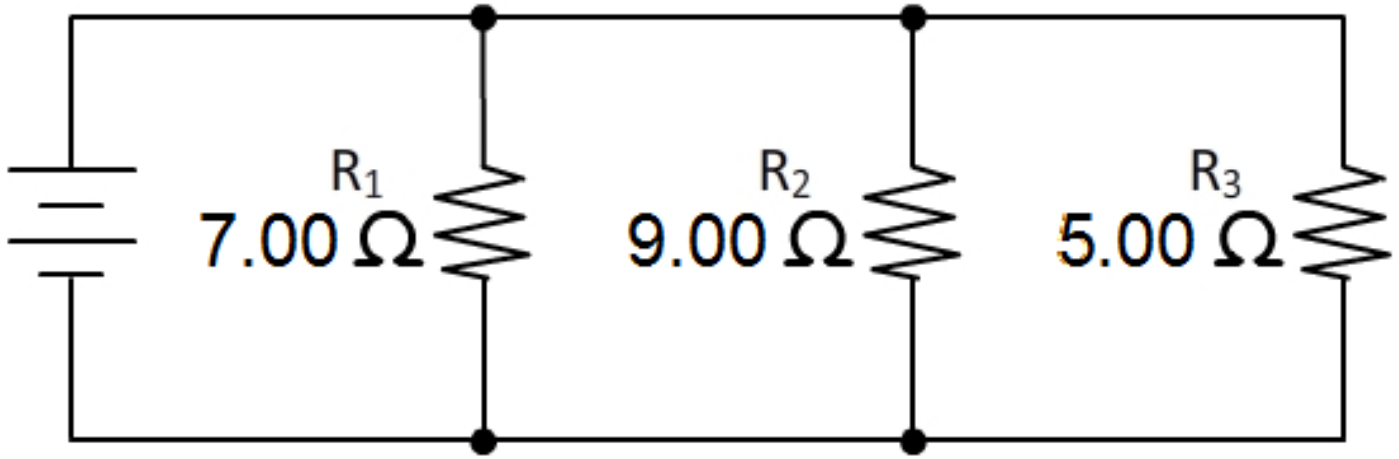
.Find the equivalent resistance of the circuit

A. 2.2 Ω

B. 21 Ω

C. 0.45 Ω

D. 0.05 Ω



→ نفس طريقة السؤال السابق

Question 3

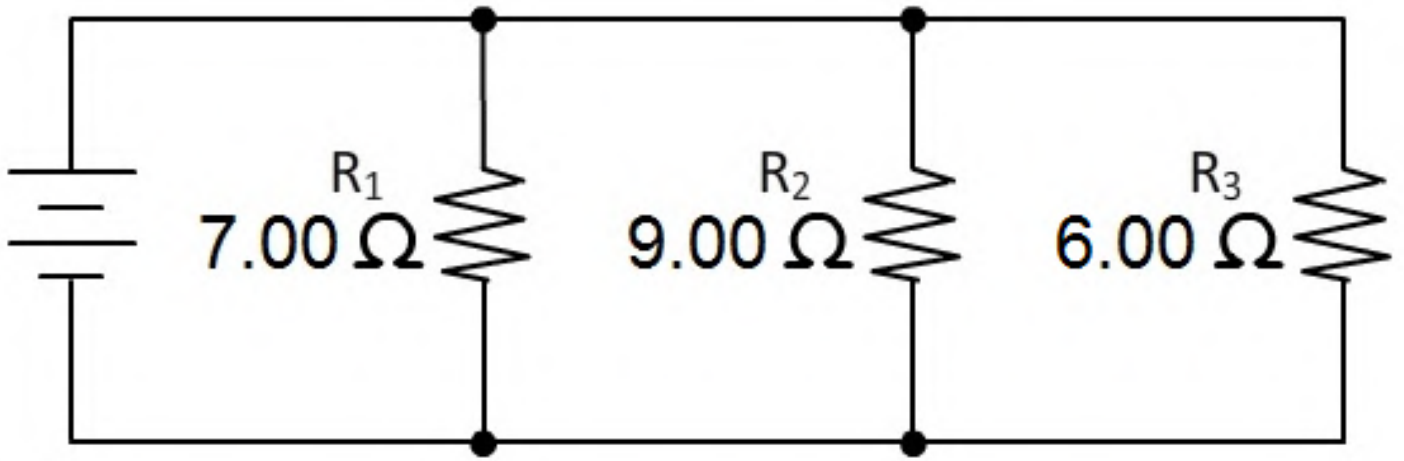
.Find the equivalent resistance of the circuit

A. 22 Ω

B. 2.37 Ω

C. 0.42 Ω

D. 0.04 Ω



→ نفس طريقة الاسئله السابقة

Question 4

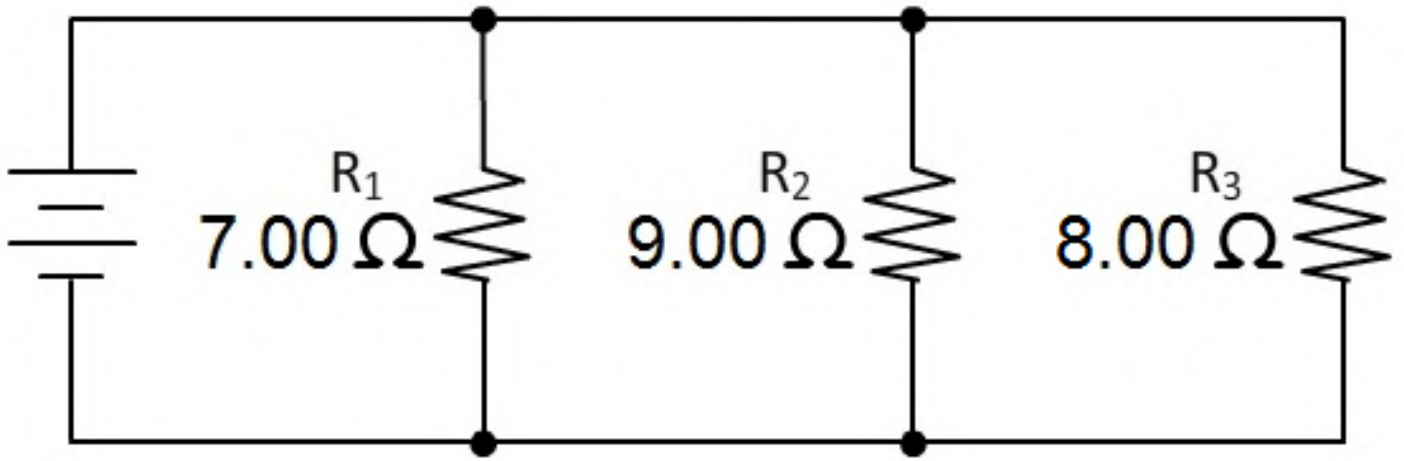
.Find the equivalent resistance of the circuit

A. 0.04 Ω

B. 24 Ω

C. 0.38 Ω

D. 2.64 Ω



→ نفس طريقة الاسئلة السابقة

Question 5

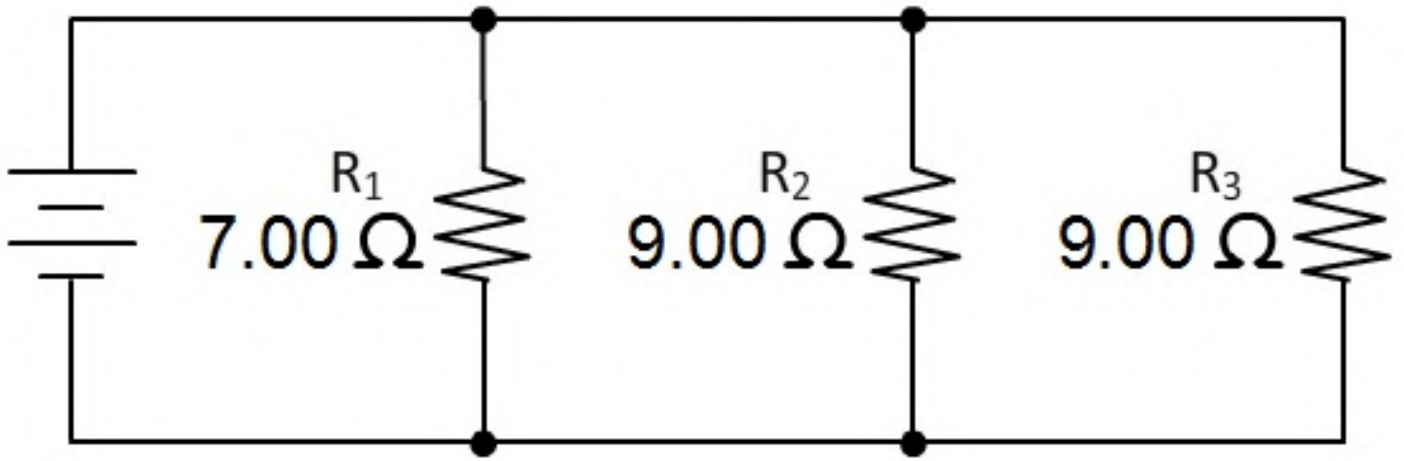
.Find the equivalent resistance of the circuit

A. 25 Ω

Ω 2.74 .B

Ω 0.37 .C

Ω 0.033 .D



نفس طريقة الاسئلة السابقة

Question 6

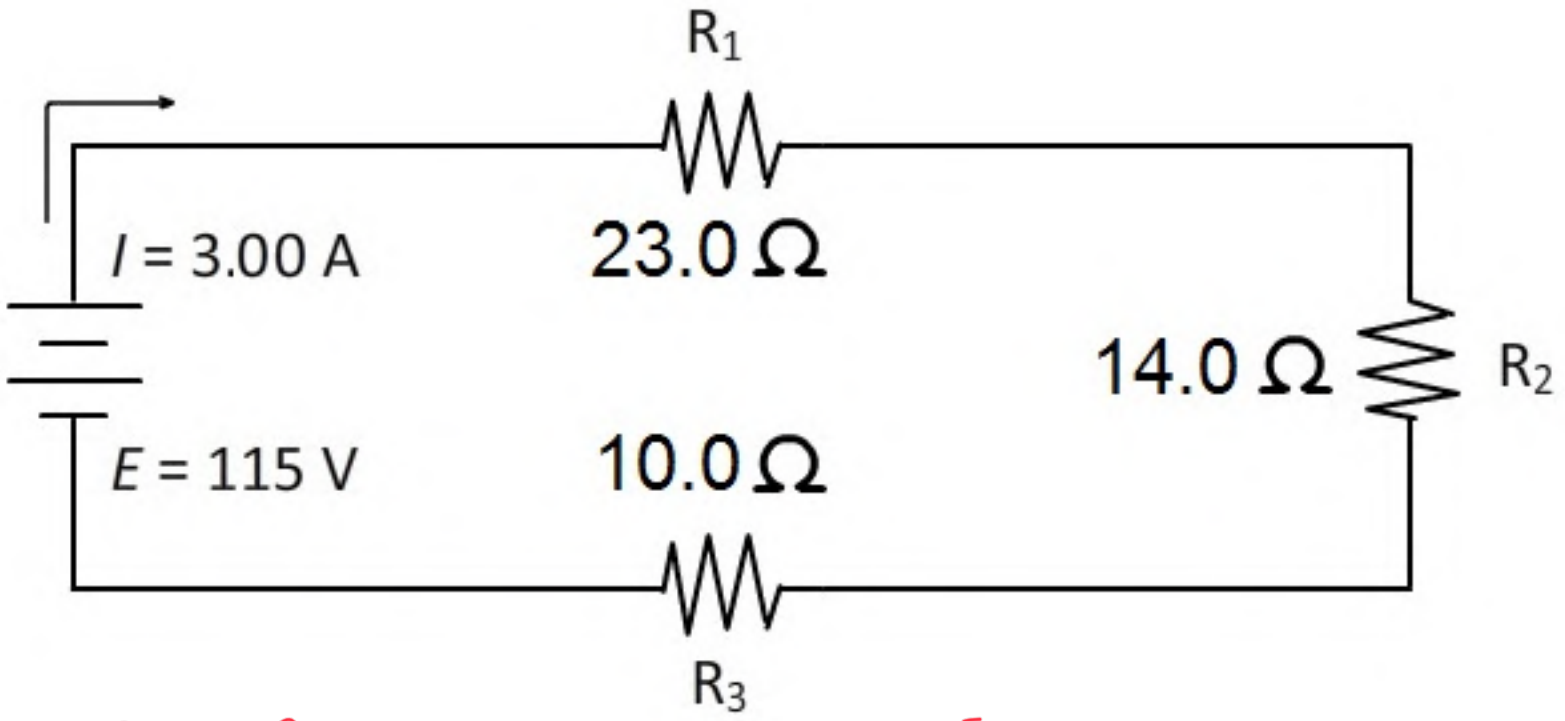
.Find the equivalent resistance of the circuit

A. 4.65 Ω

B. 47 Ω

C. 0.21 Ω

D. 0.021 Ω



$R = R_1 + R_2 + R_3$ لانه توصيل على التوالي

$23 + 10 + 14 = 47\ \Omega$

Question 7

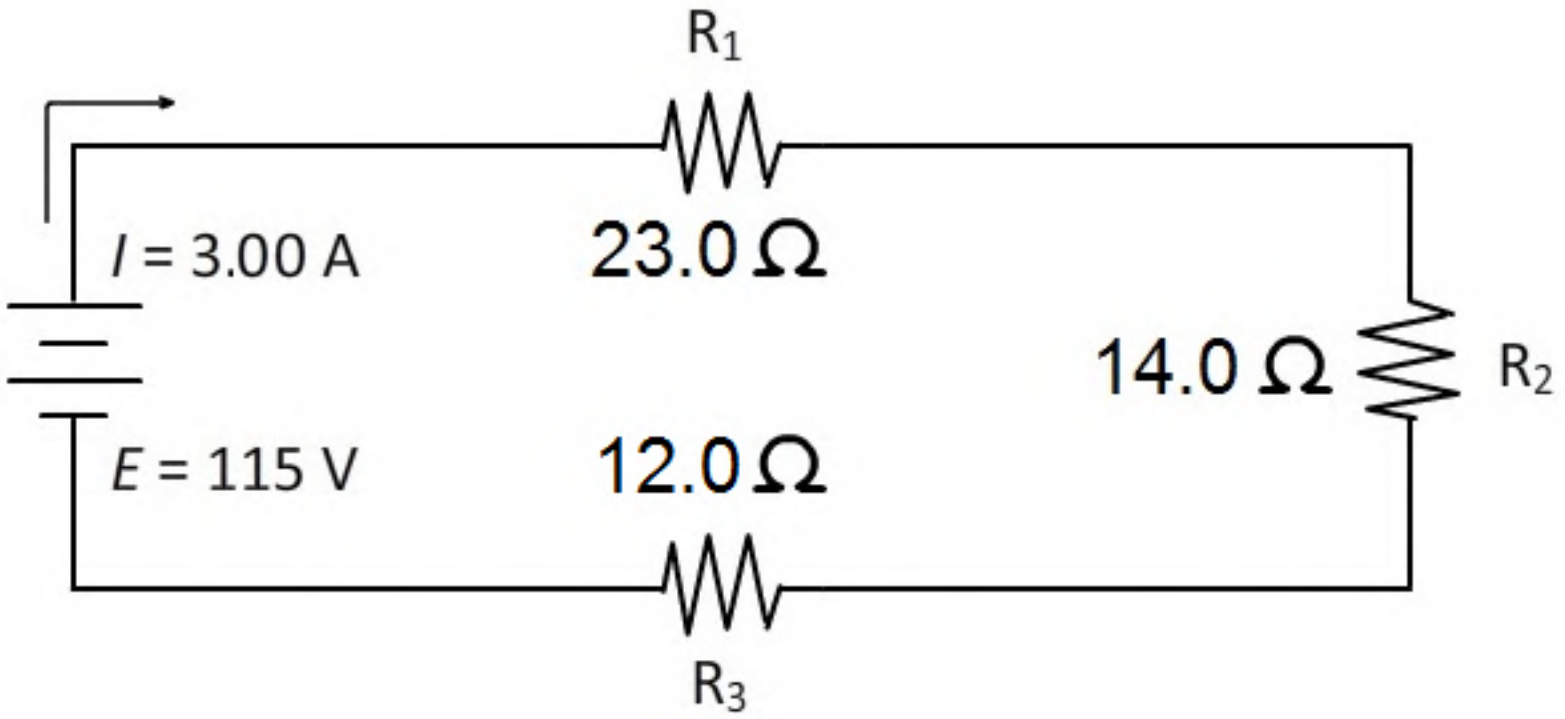
.Find the equivalent resistance of the circuit

A. 5.04 Ω

B. 0.20 Ω

C. 49 Ω

D. 0.020 Ω



نفس طريقة السؤال السابق

Question 8

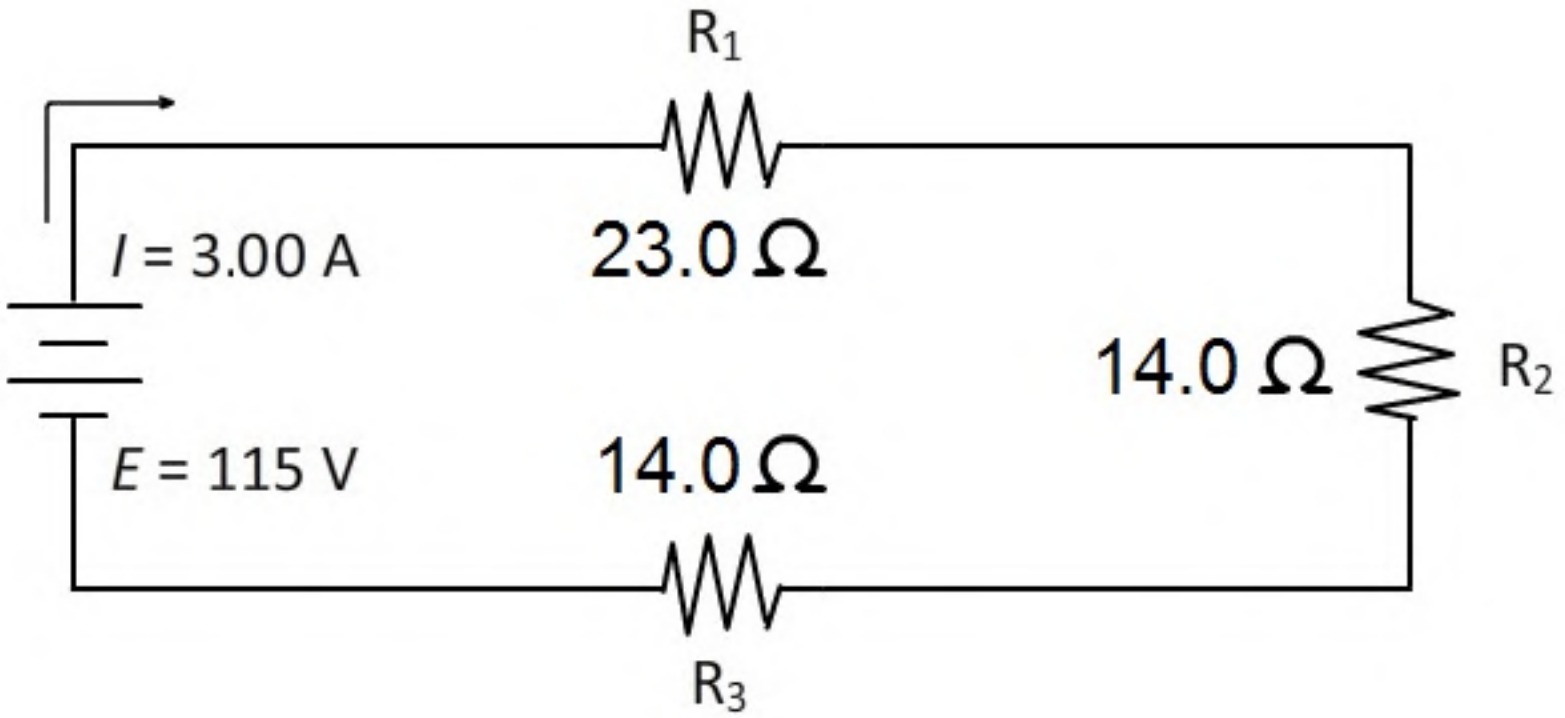
.Find the equivalent resistance of the circuit

A. 5.37 Ω

B. 51 Ω

C. 0.19 Ω

D. 0.020 Ω



→ نفس طريقة الاسئلة السابقة

Question 9

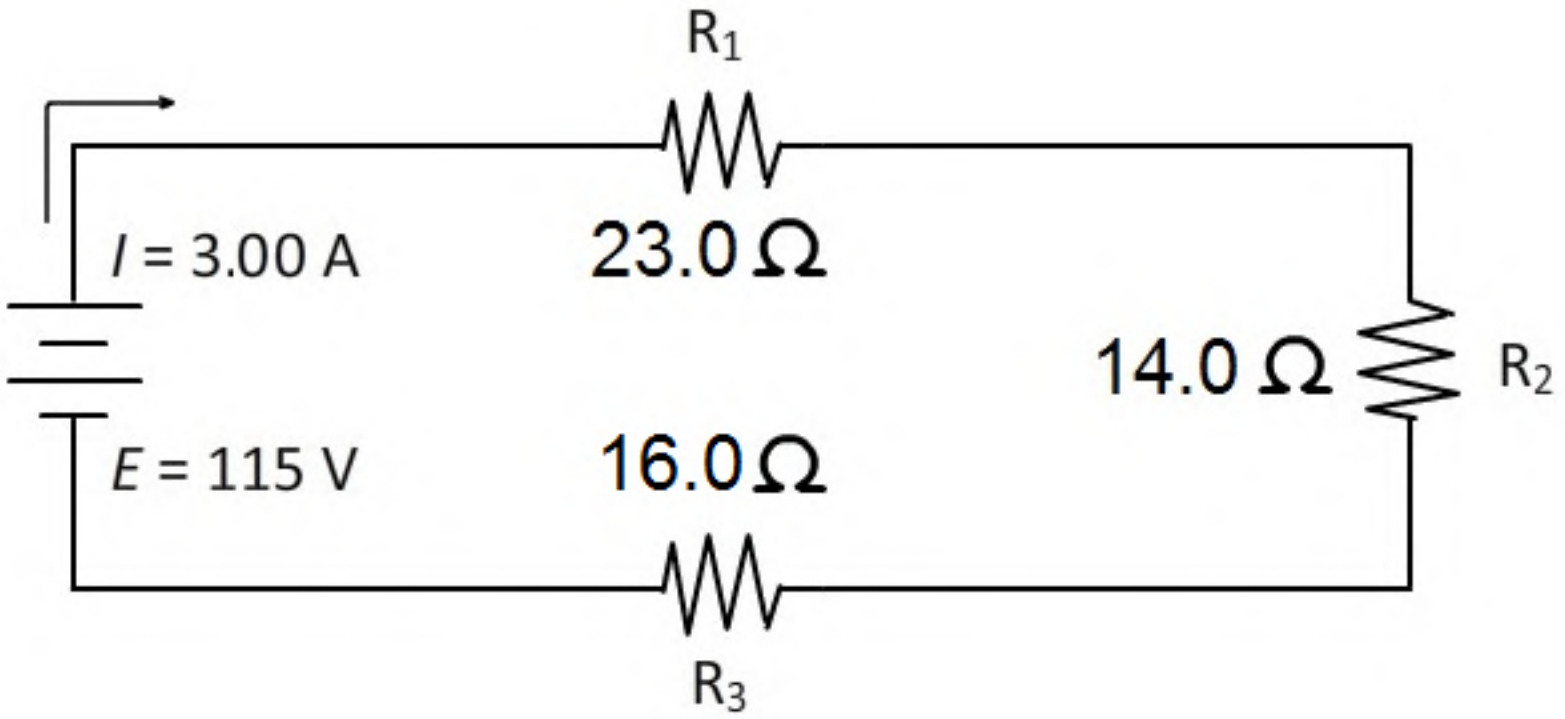
.Find the equivalent resistance of the circuit

A. 5.64 Ω

B. 0.019 Ω

C. 0.18 Ω

D. 53 Ω



→ نفس طريقة الاسئلة السابقة

Question 10

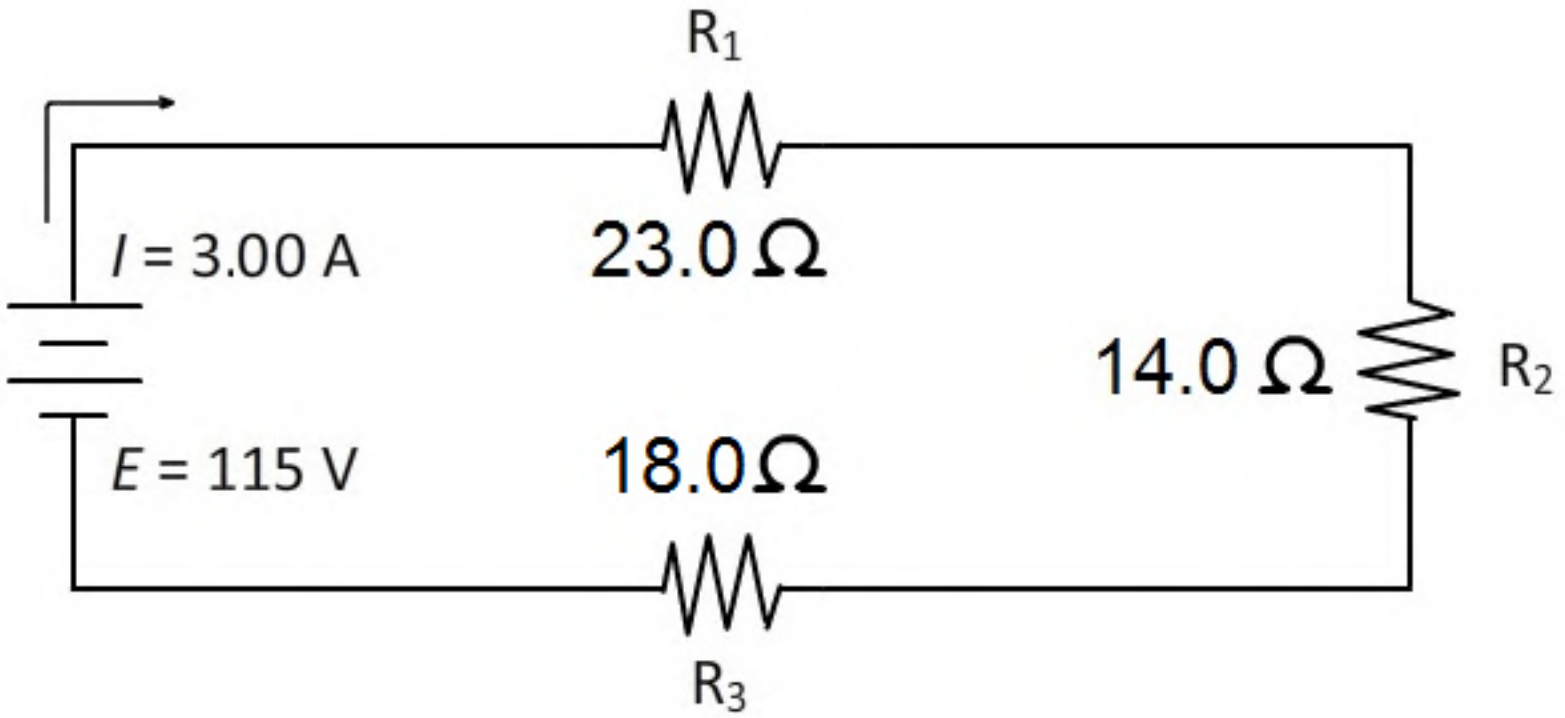
.Find the equivalent resistance of the circuit

A. 55 Ω

B. 0.17 Ω

C. 5. 87 Ω

D. 0.018 Ω



نفس طريقة الاسئلة السابقة ⟵

Assessment

Physics: Lesson 22

Question 1

:Electromagnetic waves are composed of which of the following

A. Changing electric and magnetic fields

B. Changing electric fields only

C. Changing magnetic fields only

D. Static electric or magnetic fields

Question 2

مرتبه

Which of the following is ranked in order from largest wavelength to .smallest

A. Radio, Microwave, Infrared, Gamma, X ray

B. Radio, Infrared, Microwave , X ray, Gamma

C. Radio, Microwave, Infrared, X ray, Gamma

D. Microwave, Radio, Infrared, X ray, Gamma

Question 3

:In an electromagnetic wave, the electric and magnetic fields are

A. parallel to each other and perpendicular to the direction of motion

B. parallel to each other and to the direction of motion

C. perpendicular to each other and parallel to the direction of motion

D. perpendicular to each other and to the direction of motion

Question 4

:A wave’s frequency is

A. the time duration for one complete wave

B. the number of waves repeating every second

C. the maximum value of a wave

D. the length of a single wave

Question 5

If we move from left to right in the electromagnetic spectrum, what ?will happen

A. both wavelength and frequency increase

B. both wavelength and frequency decrease

C. wavelength decreases and frequency increases

D. wavelength increases and frequency decreases

Question 6

.Find the distance a gamma wave travels in 0.01 secs

A. 3×10^4 m

B. 3×10^5 m

C. 3×10^6 m

D. 3×10^3 m

$s = ct$

$s = (3 \times 10^8) \times 0.01 = 3000000 = 3 \times 10^6$

Question 7

.Find the distance an X ray wave travels in 0.01 secs

A. 3×10^6 m

B. 3×10^5 m

C. 3×10^4 m

D. 3×10^3 m

نفس السؤال السابق لان الموجات
الكهرومغناطيسية لها نفس
السرعة : $c = 3 \times 10^8$

Question 8

.Find the distance a gamma wave travels in 0.001 secs

A. 3×10^6 m

B. 3×10^3 m

C. 3×10^4 m

D. 3×10^5 m

$s = ct$

$= 3 \times 10^8 \times 0.001$

$= 300000$

Question 9

.Find the wavelength of a wave that has a frequency of 2.5×10^7 Hz

$$C = \lambda f$$

$$\lambda = \frac{C}{f} = \frac{3 \times 10^8}{2.5 \times 10^7} = 12$$

A. 10 m

B. 11 m

C. 12 m

D. 13 m

Question 10

.Find the frequency of a wave that has a wavelength of 3.0×10^{-2} m

A. 1×10^{12} Hz

B. 1×10^{10} Hz

C. 1×10^{8} Hz

D. 1×10^{3} Hz

$$c = \lambda f$$

$$f = \frac{c}{\lambda} = \frac{3 \times 10^{8}}{3 \times 10^{-2}} = 1 \times 10^{10}$$

Assessment

Physics: Lesson 23

Question 1

?How many types of reflections are there

1 .A

2 .B

3 .C

4 .D

Question 2

The law of reflection states that the angel of reflection is _____ .the angle of incidence

A. equal to

B. unequal to

C. greater than

D. less than

Question 3

Which of the following is not true of the image formed by a plane mirror:

* خيالية - معتدلة - نفس الحجم *

A. The image is virtual

B. The image is the same size as you are

C. The image is located as far behind the mirror as you are in front of it.

D. The image is inverted

Question 4

.A _____ image has a negative value for s_i

inverted .A

real .B

virtual .C

non inverted .D

Question 5

An object 5.00 cm (s_o) in front of a convex mirror forms an image 2.0 cm (s_i) behind the mirror. What is the focal length of the mirror?

حيالية ⟸ ناخذ si بالسالبه

$$\frac{1}{f} = \frac{1}{si} + \frac{1}{so}$$

$$\frac{1}{f} = \frac{1}{-2} + \frac{1}{5} = -0.3 \rightarrow \boxed{x^{-1}} \text{ نضغط متتاع بالحاسبه} \rightarrow -3.33$$

A. 3.33 cm

B. 1.43 cm

C. −3.33 cm

D. 0.33 cm

Question 8

An object 5.0 (s_o) cm in front of a concave mirror forms an image 10.00 (s_i) ?cm in front of the mirror. What is the focal length of the mirror

A. 0.30 cm

B. 10.0 cm

C. −10.0 cm

D. 3.33 cm

نفس طريقة السؤال السابق لكن ناخذ الـ si

* بالموجب لان الصورة حقيقية أمام المرآة

$$\frac{1}{f} = \frac{1}{5} + \frac{1}{10} = 0.3 \Rightarrow [x^{-1}] \Rightarrow 3.33$$

Question 10

:You can see the road ahead of your car at night because of

diffuse reflection .A

absorption .B

specular reflection .C

refraction .D

Question 6

An object 5.00 cm (So) in front of a convex mirror forms an image 3.0 cm (Si) behind the mirror. What is the focal length of the mirror?

↳ Si سالب

A. −7.5 cm

B. 1.88 cm

C. 7.5 cm

D. 0.133 cm

$$\frac{1}{f} = \frac{1}{si} + \frac{1}{so}$$

$$\frac{1}{f} = \frac{1}{-3} + \frac{1}{5} = -0.133 \rightarrow \boxed{x^{-1}} \rightarrow -7.5$$

Question 7

so

si

An object 5.00 cm in front of a convex mirror forms an image 4.0 cm behind the mirror. What is the focal length of the mirror?

الصور خيالية ← نأخذ si بالسالب

A. 0.05 cm

B. 2.22 cm

C. 20 cm

D. −20 cm

$$\frac{1}{f} = \frac{1}{si} + \frac{1}{so}$$

$$\frac{1}{f} = \frac{1}{-4} + \frac{1}{5} = -0.05 \rightarrow \boxed{x^{-1}} \longrightarrow -20$$

Question 9

An object 5.0 (s_o) cm in front of a concave mirror forms an image 12.00 (s_i) cm in front of the mirror. What is the focal length of the mirror?

+ s_i ← قيمة موجبة

A. −3.53 cm

B. 8.57 cm

C. 3.53 cm

D. 0.283 cm

$$\frac{1}{f} = \frac{1}{s_o} + \frac{1}{s_i}$$

$$\frac{1}{f} = \frac{1}{5} + \frac{1}{12} = 0.283 \rightarrow [x^{-1}] \rightarrow 3.53$$

Question 1

Who is given credit for the discovery of X-ray?

A. Henri Becquerel

B. Wilhelm Roentgen

C. Marie Curie

D. Pierre Curie

Answer: B

Question 2

How does radioactivity cause ions to be made?

A. It adds protons to atoms

B. It adds electrons to atoms

C. It add neutrons to atoms

D. It knocks electrons from atoms

Answer: D

Question 3

Half-life is

A. Half the time for radioactivity to double

B. Twice the time a radioactive particle lives

C. The time taken for half the radioactive nuclei to decay

D. Half the time for radioactivity to finish

Answer: C

Question 5

Which of the following do not deflect when pass through a magnetic fields ?

A. alpha particles
B. beta particles
C. gamma rays
D. Magnetic and electric fields deflect alpha particles, beta particles, and gamma rays.

Answer: C

Question 6

Which of these is the most penetrating in common materials?

A. alpha particles

B. beta particles

C. gamma rays

D. all are equally penetrating

Answer: C

Question 10

Most of the radiation in Earth's biosphere

A. is the result of military activities.
B. originates from nuclear power plants.
C. occurs as natural background radiation.
D. is in the form of cosmic rays.

Answer: C

Question 11

Gamma radiation

A. is high-energy charge particle
B. is low-energy charge particle
C. is high-energy photons
D. can be stopped with a sheet of paper

Answer: C

Question 13

In food irradiation

A. the food becomes radioactive
B. the food quality can be improved
C. no change can be observed in food
D. electrons and gamma rays cannot be used

Answer: B

Question 15

Most of the natural radiation dose we get annually is from:

A Radon-222

B Potassium-40

C Carbon-14

D Uranium-235

Answer: A

Question 16

X-rays produce an image of the bones inside our body by:

A. scattering from soft tissues and penetrating bones
B. penetrating soft tissues and getting absorbed by bones
C. scattering from soft tissues and getting absorbed by bones
D. penetrating both soft tissues and bones

Answer: B

Question 17

The nucleus of a stable atom:

A. changes frequently
B. decays in a few years
C. does not change
D. emits radiation

Answer: C

Question 18

Radioactive decay results in the following types of radiation:

A. alpha, beta, gamma
B. gamma, beta, x-ray
C. alpha, gamma, x-ray
D. alpha, beta, x-ray

Answer: A

Question 19

Radioactivity is a _____ phenomenon :

A. natural
B. new
C. Man-made
D. false

Answer: A

Question 20

Of the radioactive radiations, those affected by a magnetic field are:

A. alpha and gamma, but not beta
B. alpha and beta, but not gamma
C. beta and gamma, but not alpha
D. alpha, beta and gamma

Answer: B

Question 21

Of the radioactive radiations, those with an electric charge are:

A. alpha and gamma, but not beta
B. beta and gamma, but not alpha
C. alpha and beta, but not gamma
D. alpha, beta and gamma

Answer: C

Question 22

Of the radioactive radiations, those that consist of helium nuclei are:

A. alpha and beta
B. only gamma
C. only beta
D. only alpha

Answer: D

Question 23

Radon arises from deposits of:

A. sodium
B. uranium
C. calcium
D. potassium

Answer: B

Question 24

The unit “rad” stands for:

A. radiation absorbed dose
B. roentgen equivalent man
C. radio frequency monitor
D. real atomic mass

Answer: A

Question 26

The unit “rad” equals:

A. 0.01 J of scattered energy/ 1 kg of tissue
B. 0.01 J of released energy/ 1 g of tissue
C. 0.01 J of absorbed energy/ 1 kg of tissue
D. 0.01 J of absorbed energy/ 1 g of tissue

Answer: C

Question 27

The unit of radiation dosage based on potential damage is:

A. alpha
B. beta or alpha
C. ram or rom
D. rem or Sievert

Answer: D

Question 28

Of the following, the most harmful radiation to people is:

A. 5 rad alpha + 10 rad beta
B. 5 rad alpha + 5 rad beta
C. 5 rad alpha + 20 rad beta
D. 10 rad alpha + 5 rad beta

Answer: D

Question 29

Radiation is harmful to us because:

A. it increases our heart rate
B. it makes us too hot
C. it damages some of our cells
D. it burns our skin

Answer: C

Question 30

This picture is the international symbol of:

A	Laser
B	Chemicals
C	Ionizing Radiation
D	None-Ionizing Radiation

Answer: C