



Work booklet VSBO PKL

2025

Period 1

Tuesday, May 20

7:30 – 10.00 a.m.

Physics & Chemistry 1

Candidate name _____ Candidate number _____

REMEMBER TO HAND IN THIS WORK BOOKLET

Multiple choice: circle the correct answer; indicate corrections clearly:

A **B** C D of A ~~B~~ **C** D of A ~~B~~ ~~C~~ D B

- 1 936 ml = liters.
 75.9 oz = kg.
 50 Hz = times per second.

2

dB is a unit for

| |
|------------------------|
| <i>sound pitch.</i> |
| <i>noise nuisance.</i> |
| <i>speed of sound.</i> |

watt is the unit for

| |
|--------------------------|
| <i>labor.</i> |
| <i>electrical power.</i> |
| <i>volume.</i> |
| <i>noise nuisance.</i> |

3

| material | corrosion resistant |
|----------|---------------------|
| wood | |
| metal | |
| plastic | |

| material | corrosion resistant |
|----------|---------------------|
| stone | |
| concrete | |
| glass | |

- 4 Advantage 1:

Advantage 2:

5 Liquid P is and liquid Q is

Liquid Q stays under liquid P because

.....

6 List of words:

eye glasses, blaze, corrosion, fire, belt, skin, stains, oxygen, eyes.

(1)

(2)

(3)

7

| phenomenon | physical process | chemical reaction |
|-----------------------|------------------|-------------------|
| melting ice | | |
| from wood to charcoal | | |
| evaporating seawater | | |
| rusting iron | | |

8 Step 1: sound velocity through iron is

Step 2: travel distance in meters is

Step 3:

.....

The sound travels
unit

9 A B C D

10

| oscilloscope image number | frequency |
|---------------------------|-----------|
| 1. | |
| 2. | |
| 3. | |

11

.....

12 The Binas information booklet states that to 115 dB applies:

Type of sound:

Risk of hearing loss:

Hearing loss begins to set in after minutes.

13

| location | all three lightbulbs are protected | not all three lightbulbs are protected |
|----------|---|--|
| 1 | | |
| 2 | | |
| 3 | | |

14 A B C D

15

| component number | name component |
|------------------|----------------|
| 1. | |
| 2. | |
| 3. | |
| 4. | |

16 A B C D

17 List of words:

insulator, conductor, voltmeter, ammeter, open, closed, copper rod, glass rod, aluminum rod, is, is no.

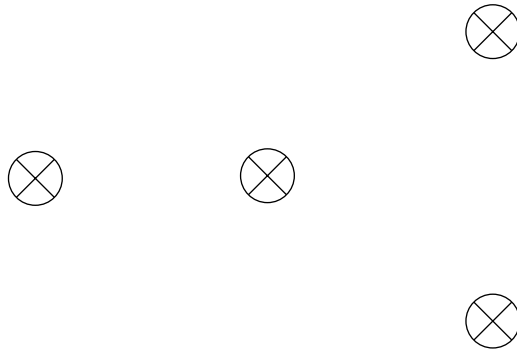
Explanation:

The lights are not on because the is

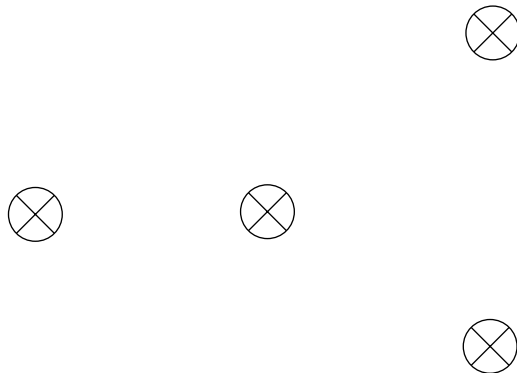
a(n), which makes the circuit

..... and therefore therecurrent.

series circuit of four lightbulbs and a battery



parallel circuit of four lightbulbs and a battery



19

| technical issue | is a probable cause | is not a probable cause |
|--|------------------------|----------------------------|
| A cord is broken on the inside. | | |
| The switch is not working properly. | | |
| The capacity of the voltage source is too small. | | |

20 Calculation of amperage.....

.....

.....

21 Calculation of equivalence resistance

.....

.....

.....

.....

22 A B C D

23

.....

.....

The amount of energy in one day equals kWh.

24 In the long run, air conditioner number is more economical.

The reason for this is

.....

.....

25

Statement 1.

In a transformer, the primary coil is connected to

| |
|---------------------|
| alternating current |
| direct current |

Statement 2.

For this transformer, the primary voltage is:

| |
|---------|
| greater |
| less |

than the secondary voltage.

26 List of choice words:

| | | | |
|----------------------------|--------------------------------|----------------------------------|----------------------------|
| <i>sunlight,</i> | <i>chemical energy,</i> | <i>radiation energy,</i> | <i>transistors,</i> |
| <i>solar cells,</i> | <i>kinetic energy,</i> | <i>electrical energy,</i> | <i>resistors.</i> |

(1).

(2).

(3).

27 Statement 1:

The soup will start to boil at some point because heat reaches the contents of the pot due to (1)

Statement 2:

The lid of the pot is on the pot to prevent heat from escaping by way of

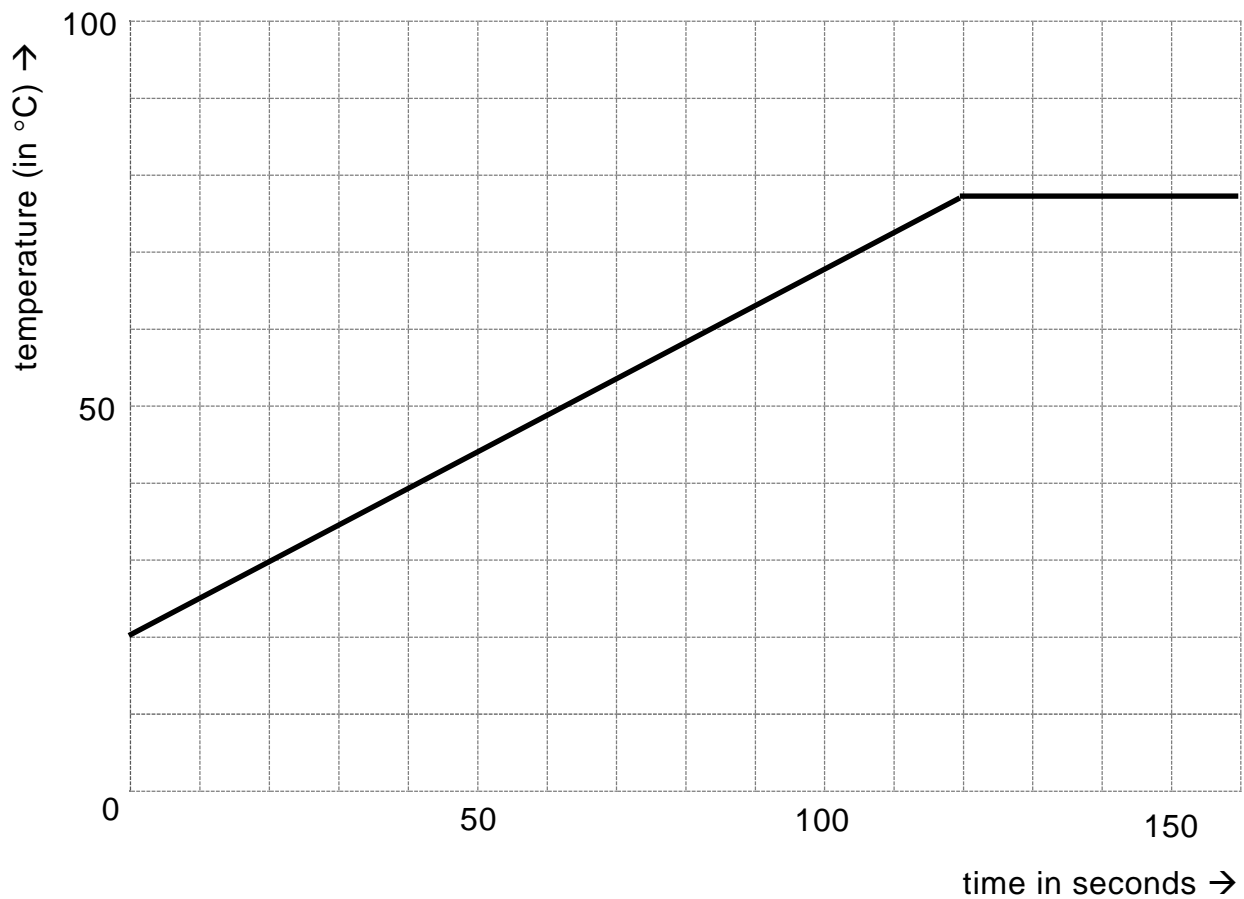
(2)

28 The data in the table shows that every ... (1) ... minutes, the ... (2) ... (3) ... and that is because of ... (4) ... mass.

(1) (2)

(3) (4)

29 temperature-time diagram



.....

.....

.....

.....

- 30 (1).
- (2).
- (3).

31 A B C

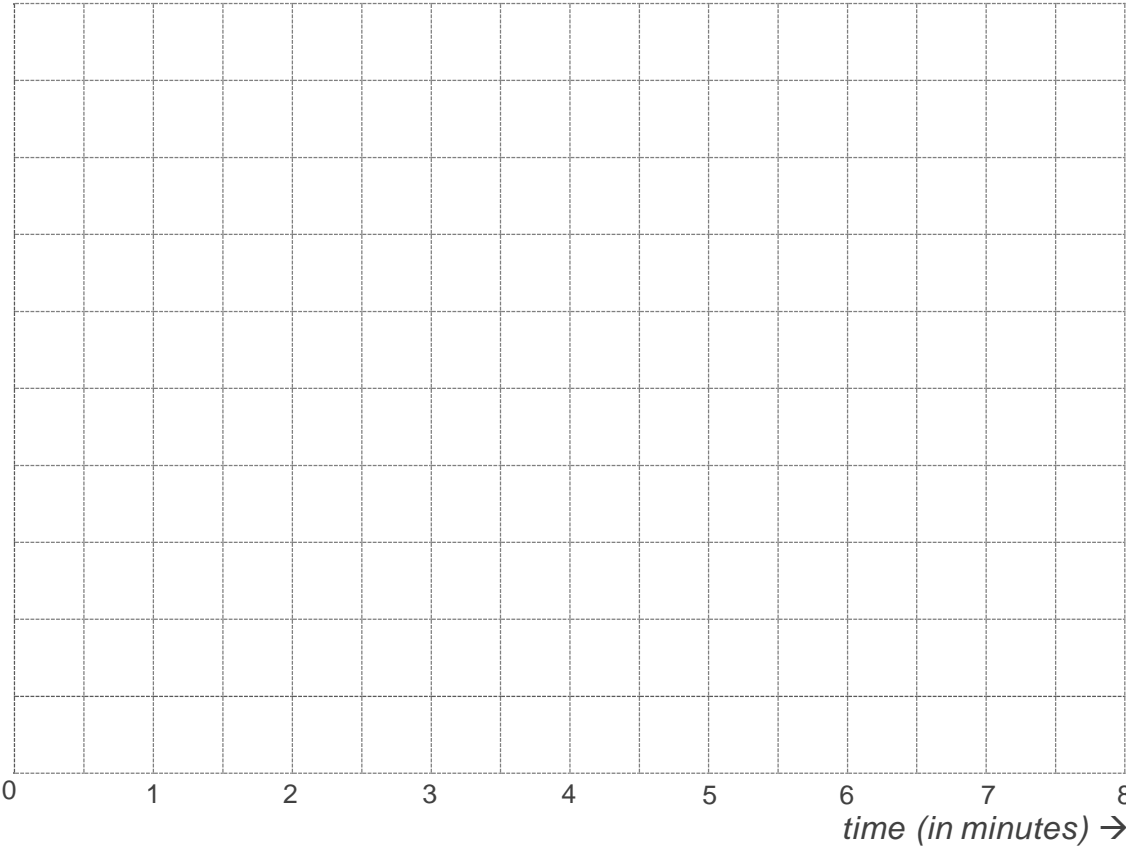
32

| statement | true | false |
|--|------|-------|
| 1. Pulley 1 doubles the amount of rope pulling. | | |
| 2. Pulley 1 reduces the pull up load by half to 5 newtons. | | |
| 3. Pulley 2 makes lifting easier. | | |
| 4. Pulley 2 reduces the pull up load by half to 5 newtons. | | |

33 A B C D

34 v-t diagram

.....



35

.....

.....

.....

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