https://t.me/+yI_iw77XeiFlZTg0



A Physics Toolkit

9. Measurement: Errors in Measurements

Lesson | Optional

Review

View hints View feedback Play All

QUESTION 1

Fill in the blank with the correct word from the Word Bank.

Word Bank

GPS	SPG
SGP	PGS

GPS ✓ is a network of 24 satellites orbiting Earth.

QUESTION 2

Fill in the blank with the correct word from the Word Bank.

Word Bank

calibration	environmental
equipment	parallax

If you take a reading from a scale at an angle, this will result in a

parallax ✓ error.

QUESTION 3

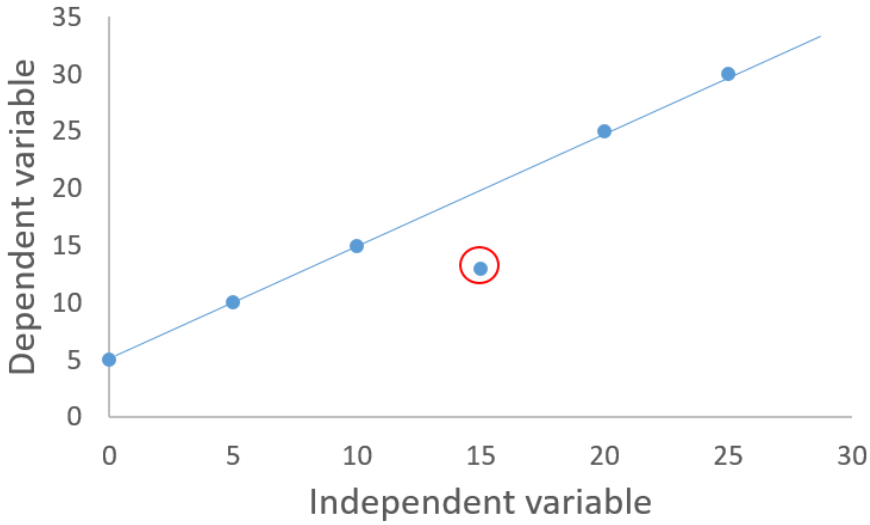
QUESTION 3

Select the best choice from the drop-down menu(s).

The measurement marked red is more likely to be caused by

human ✓ error

like parallax ✓ .



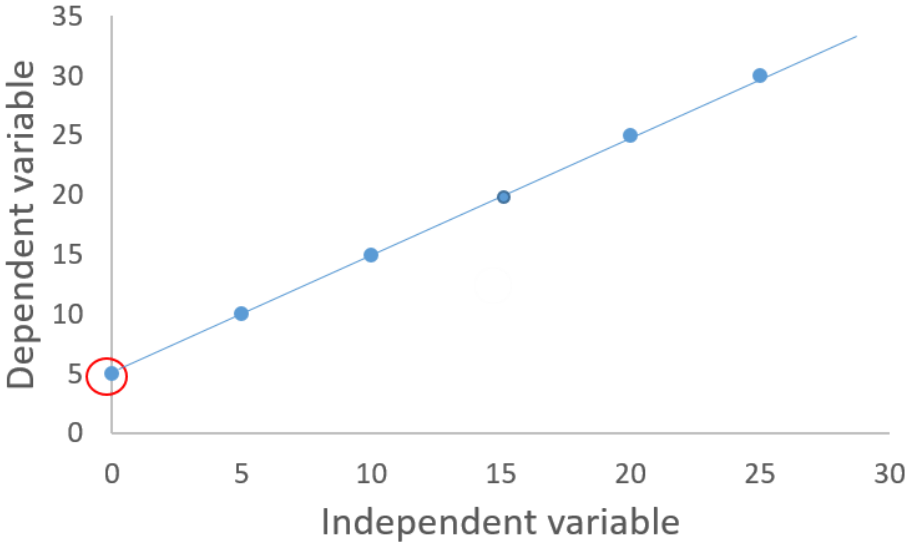
QUESTION 4

Select the best choice from the drop-down menu(s).

The measurement of the dependent variable marked in red does not start at the origin. It is *possible* that the instrument was not set at

zero ✓ at the

start of the experiment.

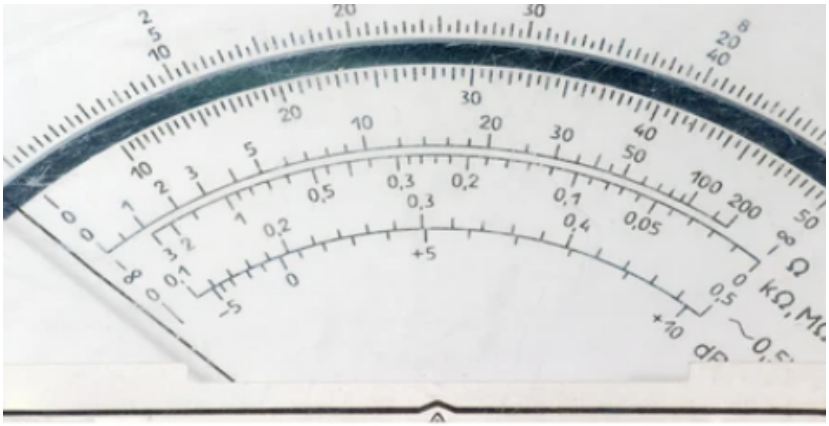


QUESTION 5

Select the best choice from the drop-down menu(s).

Some analog ammeters are installed with mirrors to minimize

parallax ✓ error.



QUESTION 6

Select the best choice from the drop-down menu(s).

Accuracy of measurements requires calibration of the used piece of equipment upon setting it to zero ✓ before using it .

QUESTION 7

Select the best choice from the drop-down menu(s).

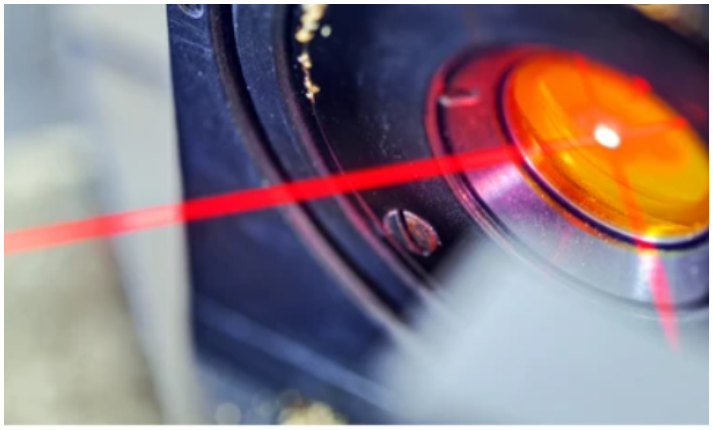
Calibration ✓ includes:

1. Checking that the equipment reads zero when it should.
2. Putting a standard measurement on the instrument to make sure it reads it accurately.

QUESTION 8

Select the correct answers.

While Salim was studying the path of a light ray throughout a lens, his outcomes were inconsistent. What possible sources of errors could Salim have encountered?



- [x] parallax while tracing the light ray
- [ ] noisy laboratory
- [ ] Salim is is not tall enough
- [x] a scratched lens
- [ ] using a new computer
- [ ] using the right laser

QUESTION 9

Select the correct answers.

One of the many different types of errors is the environmental error. Select examples on errors that have direct dependence on the environment in which the experiment is conducted.

- [ ] dying battery
- [ ] copying different data
- [x] high temperature
- [x] high humidity
- [ ] reading from different angles
- [ ] farsightedness

QUESTION 10

Select the correct answers.

Select the uses of GPS, or the Global Positioning System.

- [ ] choosing the best types of pencils
- [ ] solving a physics problem

- [ ] deciding on the tastiest food
- [ ] finding a lost pet *not* wearing a receiver
- [x] mapping
- [x] navigation

QUESTION 11

Select the correct answers.

Select the true statements about GPS.

- [x] It is a network of 24 satellites orbiting Earth.
- [ ] The receivers uses information from only 1 satellite.
- [ ] GPS is used only by military personnel.
- [x] GPS transmitters use atomic clocks.
- [ ] Clocks on GPS receivers are more accurate than clocks in transmitters.
- [ ] GPS stands for Geographical Positioning Systems.

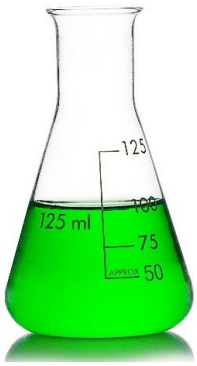
QUESTION 12

Select the correct answer.

Which of the following pieces of equipment can give an error due to parallax?









QUESTION 13

Select the correct answer.

What does GPS stand for?

- Globe Position System
- Geographical Positioning System
- Global Positioning System ✓
- General Positioning System

QUESTION 14

QUESTION 14

Select the correct answer.

Which of the following can rise due to a human error in experiments?

- high humidity
- worn out devices
- wrong ciruit connections ✓
- poor calibration

QUESTION 15

Select the correct answer.

Identify the error that appears in the image.



- worn out scale

- human error
- parallax error
- zero error ✓