QUEBEC SCIENCE AND TECHNOLOGY, SECONDARY IV · FINAL EXAM

Final Exam — Practice Test

Quebec Science and Technology, Secondary IV • 50 questions

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **A seawater sample has mass 2 kilograms and salinity 35 grams per kilogram. The mass of dissolved salt in the sample, in grams, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **A solution is made by dissolving 40 grams of salt in 2 litres of water. Its concentration, in grams per litre, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **A device operates at 12 volts with a current of 2 amperes. Its electrical power, in watts, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **A rectangular box has length 4 centimetres, width 3 centimetres and height 2 centimetres. Its total surface area, in cm², is**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **A driver pulley of diameter 10 centimetres turns at 120 revolutions per minute and drives a pulley of diameter 20 centimetres by belt. The driven pulley speed, in revolutions per minute, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

6 **A glacier is a large mass of moving**

A rock

B water

C ice

D sand

Understand It with Pulse | Flag a mistake

7 **A positively charged ion is called a**

A cation

B anion

C neutron

D isotope

Understand It with Pulse | Flag a mistake

8 **A fuse protects a circuit by melting and breaking the circuit when the current is too**

A small

B large

C steady

D slow

Understand It with Pulse | Flag a mistake

9 **A development of a rectangular prism consists of six**

A circles

B triangles

C sectors

D rectangles

Understand It with Pulse | Flag a mistake

10 **A cam transforms rotary motion into**

A electric motion

B chemical motion

C heat motion

D reciprocating motion

Understand It with Pulse | Flag a mistake

11 **Ocean salinity increases when water**

A freezes into icebergs

B evaporates leaving salt behind

C mixes with rivers

D flows to the poles

Understand It with Pulse | Flag a mistake

12 **A concentrated solution has a large amount of solute per unit**

A mass of container

B volume

C time

D temperature

Understand It with Pulse | Flag a mistake

13 **Adding resistors in series increases the total**

A current

B voltage of the cell

C charge

D resistance

Understand It with Pulse | Flag a mistake

14 **A general drawing shows the whole object while a detail drawing shows one**

A colour in detail

B price in detail

C weight in detail

D part in detail

Understand It with Pulse | Flag a mistake

15 **A guiding control that forces a part to move in a straight line is a**

- A hinge
- B spring
- C slide
- D rivet

Understand It with Pulse | Flag a mistake

16 **An anticyclone covers 240 kilometres in 4 days. Its mean movement, in kilometres per day, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

17 **An acid base neutralization reaction produces a salt and**

A oxygen

B water

C hydrogen

D carbon dioxide

Understand It with Pulse | Flag a mistake

18 **A current of 3 amperes flows through a resistor of 4 ohms. The voltage, in volts, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

19 **A symbol in a drawing stands for a feature without drawing it in**

A full colour

B full detail

C full size

D full weight

Understand It with Pulse | Flag a mistake

20 **A pulley system with a larger driver than driven pulley gives a**

A slower output

B stopped output

C reversed material

D faster output

Understand It with Pulse | Flag a mistake

21 **A glacier terminus retreats 150 metres in 5 years. Its mean retreat rate, in metres per year, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

22 **A solution contains 15 grams of solute in 300 grams of solution. Its concentration, in percent by mass, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

23 **A voltage of 20 volts is applied across a resistor of 5 ohms. The current, in amperes, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

24 **Functional dimensioning gives the dimensions needed to**

- A paint the part
- B weigh the part
- C sell the part
- D make and assemble the part

Understand It with Pulse | Flag a mistake

25 **A driver gear with 30 teeth turns at 90 revolutions per minute and drives a gear with 45 teeth. The driven gear speed, in revolutions per minute, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

26 **A glacier terminus retreats 90 metres in 3 years. Its mean retreat rate, in metres per year, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

27 **A solution contains 20 grams of solute in 400 grams of solution. Its concentration, in percent by mass, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

28 **A device operates at 6 volts with a current of 4 amperes. Its electrical power, in watts, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

29 **A rectangular box has length 5 centimetres, width 2 centimetres and height 3 centimetres. Its total surface area, in cm², is**

ANSWER _____

Understand It with Pulse | Flag a mistake

30 **A driver gear with 24 teeth turns at 120 revolutions per minute and drives a gear with 48 teeth. The driven gear speed, in revolutions per minute, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

31 **Ocean circulation is driven mainly by differences in water**

A colour and depth

B temperature and salinity

C age and size

D pressure and light

Understand It with Pulse | Flag a mistake

32 **A solution contains 5 grams of solute in 100 grams of solution. Its concentration, in percent by mass, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

33 **A device operates at 20 volts with a current of 2 amperes. Its electrical power, in watts, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

34 **A real length of 300 centimetres is drawn at a scale of 1 to 50. Its length on the drawing, in centimetres, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

35 **A screw with pitch 2 millimetres per turn is turned 5 times. Its advance, in millimetres, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

36 **The area of land that drains water into one river system is a**

A delta

B estuary

C catchment area

D divide

Understand It with Pulse | Flag a mistake

37 In a closed reaction 10 grams of reactant A and 15 grams of reactant B react completely. The total mass of products, in grams, is

ANSWER _____

Understand It with Pulse | Flag a mistake

38 In a circuit diagram a long line and a short line together represent a

A resistor

B switch

C cell

D bulb

Understand It with Pulse | Flag a mistake

39 Use pi equals 3.14. A cylinder of radius 3 centimetres and height 4 centimetres has lateral area, in cm², of

ANSWER _____

Understand It with Pulse | Flag a mistake

40 **A screw with pitch 4 millimetres per turn is turned 3 times. Its advance, in millimetres, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

41 **The gas whose rising concentration strengthens the greenhouse effect most through fossil fuel burning is**

A carbon dioxide

B oxygen

C nitrogen

D argon

Understand It with Pulse | Flag a mistake

42 **In the Rutherford Bohr model electrons occupy**

A the nucleus itself

B random clouds only

C the outer shell only

D energy levels around the nucleus

Understand It with Pulse | Flag a mistake

43 **In an electrical device the law of conservation of energy states that energy cannot be created or**

A destroyed

B measured

C stored

D transferred

Understand It with Pulse | Flag a mistake

44 **The front view is usually the view that shows the object most**

A quickly

B brightly

C clearly

D cheaply

Understand It with Pulse | Flag a mistake

45 **Adhesion between parts helps them stay**

A apart

B hot

C wet

D together

Understand It with Pulse | Flag a mistake

46 **The lithosphere is the Earths rigid outer**

A rock layer

B air layer

C water layer

D core

Understand It with Pulse | Flag a mistake

47 **The pH scale measures the concentration of**

A hydrogen ions

B oxygen ions

C salt ions

D electrons

Understand It with Pulse | Flag a mistake

48 **Power is the rate of transfer of**

A energy

B charge

C resistance

D current

Understand It with Pulse | Flag a mistake

49 **Use pi equals 3.14. A cylinder of radius 5 centimetres and height 2 centimetres has lateral area, in cm², of**

ANSWER _____

Understand It with Pulse | Flag a mistake

50 **The degree of freedom of a part linked by a hinge is**

- **A** no motion
- **B** six motions
- **C** one rotation
- **D** melting

Understand It with Pulse **Flag a mistake**

ANSWER KEY

1.	70	**18.**	12	**35.**	10
2.	20	**19.**	B	**36.**	C
3.	24	**20.**	D	**37.**	25
4.	52	**21.**	30	**38.**	C
5.	60	**22.**	5	**39.**	75.36
6.	C	**23.**	4	**40.**	12
7.	A	**24.**	D	**41.**	A
8.	B	**25.**	60	**42.**	D
9.	D	**26.**	30	**43.**	A
10.	D	**27.**	5	**44.**	C
11.	B	**28.**	24	**45.**	D
12.	B	**29.**	62	**46.**	A
13.	D	**30.**	60	**47.**	A
14.	D	**31.**	B	**48.**	A
15.	C	**32.**	5	**49.**	62.8
16.	60	**33.**	40	**50.**	C
17.	B	**34.**	6		

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