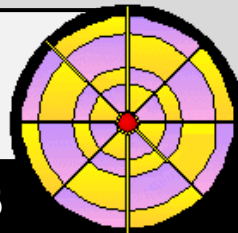


The Daily Rigour

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Your free weekly numeracy newspaper!

Daily 30-minute workout 'may not benefit everyone'

The decades-old advice of exercising for 30 minutes a day may not benefit everyone, scientists have claimed. A new study concluded that the best combination of activities to reduce the odds of early death by 30% was to do three minutes of moderate to vigorous exercise (e.g. running), or 12 minutes of light physical activity (e.g. walking), for each hour of the day spent sitting. For a person who spends a typical working day sitting at a desk from 9am - 5pm how long do they need to spend doing:



- (a) moderate to vigorous exercise? (b) light physical activity?

Eurovision: Italy wins and UK comes last!

Italy has won the Eurovision Song Contest in Rotterdam with their song Zittie e Buoni.

Måneskin singer Damiano David shouted "Rock and roll never dies" as the four piece group collected their glass microphone trophy.



The final scores of the 26 participating nations are shown in the table opposite;

Spain scored $\frac{1}{17}$ of Serbia's total.

- (a) How many points did Spain score?

Germany scored $\frac{1}{19}$ of Albania's total.

- (b) How many points did Germany score?

The United Kingdom's total can be calculated by subtracting the points totals of Sweden, Serbia, Cyprus, Israel, Azerbaijan, San Marino and the Netherlands from Italy's points total.

- (c) How many points did the UK score?

Full Eurovision results 2021

1. Italy - 524 points	14. Sweden - 109 points
2. France - 499 points	15. Serbia - 102 points
3. Switzerland - 432 points	16. Cyprus - 94 points
4. Iceland - 378 points	17. Israel - 93 points
5. Ukraine - 364 points	18. Norway - 75 points
6. Finland - 301 points	19. Belgium - 74 points
7. Malta - 255 points	20. Azerbaijan - 65 points
8. Lithuania - 220 points	21. Albania - 57 points
9. Russia - 204 points	22. San Marino - 50 points
10. Greece - 170 points	23. Netherlands - 11 points
11. Bulgaria - 170 points	24. Spain - points
12. Portugal - 153 points	25. Germany - points
13. Moldova - 115 points	26. United Kingdom - points

ENTERTAINMENT

Einstein handwritten letter with equation fetches \$1.2m

A letter written by Albert Einstein containing his $E = mc^2$ equation has sold at auction in the US for \$1.2m.



This was three times more than was expected.

- (a) How much was the letter expected to sell for?

The equation was first published in a scientific paper by Einstein in 1905. Energy equals mass times the speed of light squared - is a fundamental concept in modern physics.

The speed of light, in metres per second, is a constant and is 750 times the amount the letter was expected to sell for in dollars.

- (b) What is the speed of light in metres per second?

Rare £2 coin could be worth £1000 due to design error

A rare coin with an error could be worth £1000, an expert has revealed. A £2 HG Wells coin was created to mark the life of the sci-fi author.

The version of the 2021 coin is special as it features a thicker yellow ring, wider than a normal £2.

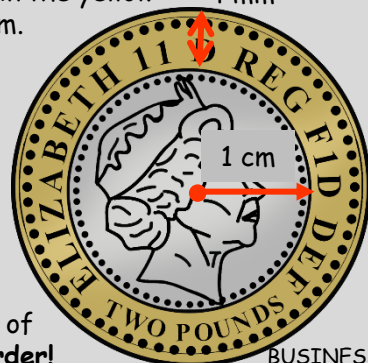
Collectors often find error coins valuable as they could either be a one-off, or one of a handful.

In a regular £2 coin the yellow ring measures 4 mm.

The radius of the inner silver circle is 1 cm.

- (a) What is the diameter of a £2 coin?

- (b) What is the circumference of a £2 coin? **Harder!**



BUSINESS