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BrightRED Revision Cards

Curriculum for Excellence

N5

MATHEMATICS



QUESTIONS

1 Express $\frac{3}{\sqrt{2}}$ as a fraction with a rational denominator.

A $\frac{\sqrt{6}}{2}$

C $\frac{3\sqrt{2}}{2}$

B $\frac{18}{2}$

D $\frac{2}{3\sqrt{2}}$

2 Express $\frac{1}{\sqrt{5}}$ as a fraction with a rational denominator.

A $\frac{\sqrt{5}}{5}$

C $\frac{1}{5\sqrt{5}}$

B $\frac{5}{\sqrt{5}}$

D $\frac{5\sqrt{5}}{25}$

3 Express $\frac{8}{\sqrt{32}}$ in its simplest form with a rational denominator.

4 Express $\frac{\sqrt{125}}{\sqrt{200}}$ in its simplest form with a rational denominator.

5 Express $\frac{\sqrt{6}}{\sqrt{75}}$ in its simplest form with a rational denominator.

ANSWERS

1 C

REMEMBER! If you are asked to rationalise the denominator of a fraction where \sqrt{a} appears on the denominator, multiply top and bottom by \sqrt{a} . Always simplify as far as possible.

2 A

3 $\sqrt{2}$ 4 $\frac{\sqrt{10}}{4}$ 5 $\frac{\sqrt{2}}{5}$

FACT! Persian polymath Al-Khwarizmi called irrational numbers “inaudible”. This later became “Surdus” the Latin for deaf or mute!



ANSWERS

1 D

2 D

3 73.7° 4 108°

REMEMBER! An angle in a semi-circle is a right-angle.

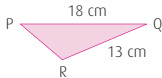
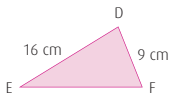
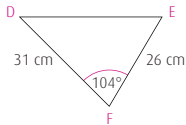
A radius meets a tangent at right angles.

A radius which bisects a chord forms a right-angle.



QUESTIONS

- 1** Calculate the area of triangle PQR shown right. Round your answer correct to the nearest square centimetre.
- A** 70cm^2 **C** 136cm^2
B 34cm^2 **D** 68cm^2
- 2** Calculate the area of triangle DEF shown right.
- A** 318cm^2 **C** 403cm^2
B 391cm^2 **D** 782cm^2
- 3** In triangle DEF, shown right, $DE = 16$ centimetres and $DF = 9$ centimetres. If the area of triangle DEF is 70 square centimetres, calculate the size of angle EDF. Round your answer correct to three significant figures.
- 4** In triangle PQR shown right, PQ is 18 centimetres, $QR = 13$ centimetres and $\sin Q = \frac{1}{3}$. Without using a calculator, find the area of the triangle.



ANSWERS

1 D

REMEMBER! Use these triangle formulae when you know two sides and the included angle: $\text{Area} = \frac{1}{2} ab \sin C$ or $A = \frac{1}{2} bc \sin A$ or $A = \frac{1}{2} ac \sin B$.

2 B

3 76.5° 4 39cm^2 