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National 5 Maths
Magnitude of a Vector

SQA past paper and specimen paper questions and answers by topic

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National 5 Maths
SQA 2015 Paper 2
Question 4

Find $|\mathbf{u}|$, the magnitude of vector $\mathbf{u} = \begin{pmatrix} 6 \\ -13 \\ 18 \end{pmatrix}$. 2

Answer:

23

National 5 Maths
SQA 2017 Specimen
Paper 1 Question 3

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Two forces acting on a rocket are represented by vectors $\mathbf{u}$ and $\mathbf{v}$.

$$\mathbf{u} = \begin{pmatrix} 2 \\ -5 \\ -3 \end{pmatrix} \text{ and } \mathbf{v} = \begin{pmatrix} 7 \\ 4 \\ -1 \end{pmatrix}.$$

Calculate $|\mathbf{u} + \mathbf{v}|$, the magnitude of the resultant force.

Express your answer as a surd in its simplest form. **3**

Answer:

$7\sqrt{2}$

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SQA 2017 Paper 2
Question 1

Find $|\mathbf{v}|$, the magnitude of vector $\mathbf{v} = \begin{pmatrix} 18 \\ -14 \\ 3 \end{pmatrix}$. 2

Answer:

23

National 5 Maths
SQA 2018 Paper 2
Question 3

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Find $|\mathbf{r}|$, the magnitude of vector $\mathbf{r} = \begin{pmatrix} 24 \\ -12 \\ 8 \end{pmatrix}$. 2

Answer:

28

National 5 Maths
SQA 2019 Paper 2
Question 2

Find $|\mathbf{p}|$, the magnitude of vector $\mathbf{p} = \begin{pmatrix} 6 \\ 27 \\ -18 \end{pmatrix}$. 2

Answer:

33

National 5 Maths
SQA 2021 Paper 1
Question 1

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Calculate $|\mathbf{d}|$, the magnitude of vector $\mathbf{d} = \begin{pmatrix} 1 \\ -4 \\ 8 \end{pmatrix}$. 2

Answer:

9