Dimensions

In the expressions below the letters a, b, c and d represent lengths.

Label each expression with a **V** for volume, **A** for Area, **L** for length or **N** for neither.

$\dfrac{abc}{d}$	
$4\pi a^3$	
$4a^2$	
$\pi a^3 + bd$	
$(a+b)cd$	
$\pi(c^2 + d^2)$	
$4ad^2$	
πbc	
$\dfrac{\pi ab^3}{3d}$	

$3a^3$	
$ac + bd$	
$\pi(a+b)$	
$3(c+d)^2$	
$3\pi bc^2$	
$\dfrac{\pi a^3}{c}$	
$\dfrac{d^3}{\pi}$	
$\pi a + b$	
$\pi c^2 + cd$	

$\pi(a+d)$	
$\dfrac{\pi^3}{b^2}$	
$\dfrac{\pi abc}{2d}$	
πa	
$2a^2 + b^2$	
$\pi a^2 + b$	
$\pi a(b+c)$	
$2(c^3 + d^3)$	
$2ad^3$	

Which of these can be added together? Put ticks in those that can and crosses in those that can't.

	cm^2	m^2	square feet	litres	m^3	ms^{-1}
cm^2						
m^2						
square feet						
litres						
m^3						
ms^{-1}						

Dimensions - Answers

In the expressions below the letters a, b, c and d represent lengths.

Label each expression with a **V** for volume, **A** for Area, **L** for length or **N** for neither.

$\dfrac{abc}{d}$	A
$4\pi a^3$	V
$4a^2$	A
$\pi a^3 + bd$	**N**
$(a+b)cd$	V
$\pi(c^2 + d^2)$	A
$4ad^2$	V
πbc	A
$\dfrac{\pi ab^3}{3d}$	V

$3a^3$	V
$ac + bd$	A
$\pi(a+b)$	L
$3(c+d)^2$	A
$3\pi bc^2$	V
$\dfrac{\pi a^3}{c}$	A
$\dfrac{d^3}{\pi}$	V
$\pi a + b$	L
$\pi c^2 + cd$	A

$\pi(a+d)$	L
$\dfrac{\pi^3}{b^2}$	**N**
$\dfrac{\pi abc}{2d}$	A
πa	L
$2a^2 + b^2$	A
$\pi a^2 + b$	**N**
$\pi a(b+c)$	A
$2(c^3 + d^3)$	V
$2ad^3$	**N**

Which of these can be added together? Put ticks in those that can and crosses in those that can't.

	cm^2	m^2	square feet	litres	m^3	ms^{-1}
cm^2	✓	✓	✓	✗	✗	✗
m^2		✓	✓	✗	✗	✗
square feet			✓	✗	✗	✗
litres				✓	✓	✗
m^3					✓	✗
ms^{-1}						✓