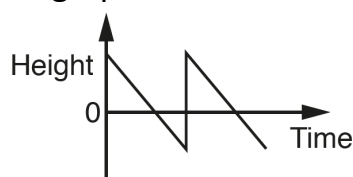
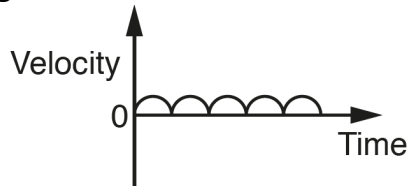
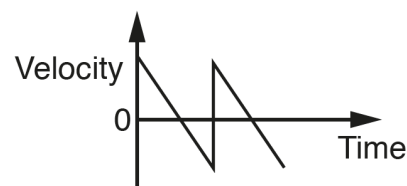


Name:

Class:



Which graph shows a bouncing ball?


A

B

C

A car accelerates from 0 to 60 mph (miles per hour) in about 9 seconds.

Use the relationship: 1 m/s = 2.24 mph

 Estimate the acceleration for this car in m/s².

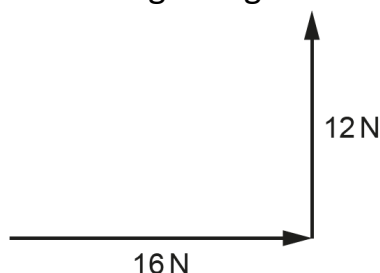
$$60 \div 2.24 = 26.79 \text{ m/s}$$

$$26.79 \text{ m/s} \div 9 = 2.98 \text{ m/s}^2$$

 Estimate, so round up to 3 m/s²

$$\text{Acceleration} = 3 \text{ m/s}^2$$

Two forces act at right angles to each other.



What is the magnitude of the resultant force?

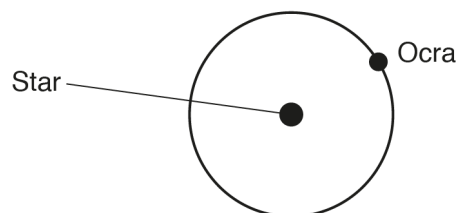
A 18 N

B 20 N

C 22 N

D 24 N

Planet Odra is in a circular orbit around a star.



Which statement is correct?

A The acceleration of Odra is zero.

B The speed of Odra is changing.

C The velocity of Odra is changing.

D The velocity of Odra is zero.

A gas fire, used to heat a room, has an input energy transfer of 180 000 J per minute.

The fire has an efficiency of 0.8.

Calculate the useful output energy transfer per minute.

$$\text{Efficiency} = \text{Useful output energy transfer} \div \text{Input energy transfer}$$

$$0.8 = \text{Useful output energy transfer} \div 180\,000$$

$$\text{Useful output energy transfer} = 180\,000 \times 0.8$$

$$\text{Energy transfer per minute} = 144\,000 \text{ J}$$

The following nuclear equation represents the decay of plutonium-239.

Complete the following equation for the decay of plutonium-239.

