

# Basic Vectors

**Week 15**

**Lesson Time : 30-35 Minutes**

**Course : Higher**

**Grade : 7**

**Back to Basics**

**Core**

**Let's Do It!**

## GCSE Revision Video 75

- **Prior Checklist:** A pack of A5/A6 revision cards.

A pen.

- **Our Video Structure:**

**Back to Basics:** Quick re-cap.

**Core:** *Create* your own revision cards with exam style questions.

**Let's Do It!:** *Apply* your revision cards to another set of exam style questions.

**Instructions:** **Print out** this worksheet and watch the revision video simultaneously.

**Pause and Play** the video unlimited times to review your work and write the answers in the blank spaces. Once you have written your answers, check these with the tutorial answers, as explained in the video.

**Create** your OWN revision cards when prompted on the worksheet ( Back to Basic and Core sections).

**Apply** your OWN revision cards ( Let's Do It! sections).

**Self Assess** yourself ( Out of 10) on your revision planner after you have completed the revision video.

**WATCH** this revision video and **MANY** others on our **FULL** courses at [www.mathsmemory.co.uk](http://www.mathsmemory.co.uk)

Let's get started and create our Master revision card with this suggested template.

**MATHS Memory** **Maths Memory**

Learn:

- Parallel lines
- Ratios

Step 3

Step 2

Step 1

10  
7  
4

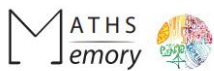
Example(s):

Topic: Basic Vectors

Date/week: \_\_\_\_\_

GRADE 7

**Core-** Create your revision cards with these exam style questions



**Core 1**

**Topic: Basic Vectors**

**Question 1**

ABC is a triangle. M is the mid point of AB.

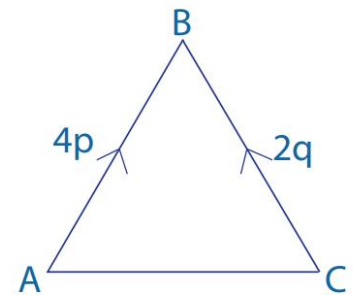
$\vec{AB} = 4\mathbf{p}, \vec{CB} = 2\mathbf{q}$

a) Express  $\vec{AC}$  in terms of  $\mathbf{p}$  and  $\mathbf{q}$ .

M is the mid point of AB and N is the mid point of BC.

b) Find  $\vec{MN}$ .

c) Show that both  $\vec{MN}$  and  $\vec{AC}$  are parallel to each other.

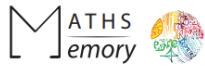
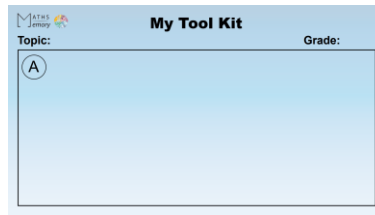


Grade

**7** (3 Marks)



Let's get our revision card and create Section A. Look at video for guidance.



## Core 2

## Topic: Basic Vectors

### Question 2

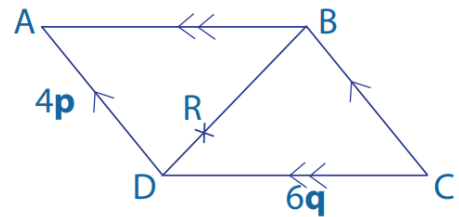
ABCD is a parallelogram.

R is the point on  $\overrightarrow{DB}$  such that  $DR : RB$  is 1:3

$$\overrightarrow{DA} = 4\mathbf{p}, \overrightarrow{CD} = 6\mathbf{q}$$

a)  $\overrightarrow{BD} =$

b) Show that  $\overrightarrow{RA}$  is parallel to  $\frac{1}{2}\mathbf{q} + \mathbf{p}$

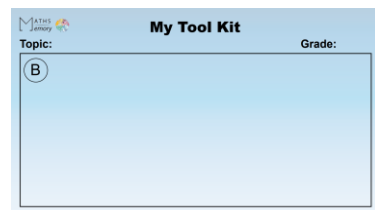


Line CD is extended such that point E lies at the end of line CD and that  $CD : DE = 3:2$

c)  $\overrightarrow{RE} =$

Grade  
7 (4 Marks)

Let's get our revision card and create Section B. Look at video for guidance.



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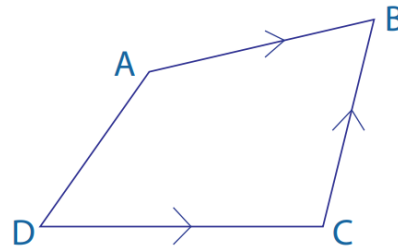
Question 3

ABCD is a quadrilateral.

$$\vec{AB} = 6\mathbf{p} - 3\mathbf{q}, \vec{CB} = 6\mathbf{q}, \vec{DC} = 5\mathbf{q}.$$

T is a point on CA such that CT:TA = 2:1

a)  $\vec{DT} =$

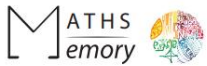


b) Line CA is extended such that point O lies on this line and that TA : AO = 1 : 4  
Show that  $\vec{BO}$  is  $15\mathbf{q} - 14\mathbf{p}$ .

Grade

7 (4 Marks)

# Let's Do It! - Apply your revision cards to another set of exam style questions



## Let's Do It !

## Topic: Basic Vectors

### Question 1

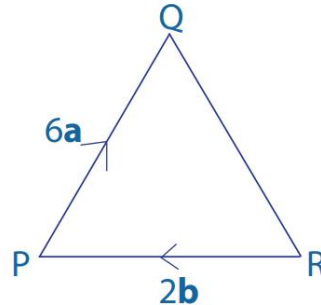
PQR is a triangle.  $\vec{PQ} = 6\mathbf{a}$ ,  $\vec{RP} = 2\mathbf{b}$

M is a point on PQ such that  $PM : MQ = 1:2$ .

N is a point on RQ such that  $RN : NQ = 1:2$

a) Express  $\vec{RM}$  in terms of  $\mathbf{a}$  and  $\mathbf{b}$ .

b) Show that  $\vec{NM}$  and  $\vec{RP}$  are parallel to each other.



Grade

7 (3 Marks)



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Question 2

PQRS is a trapezium

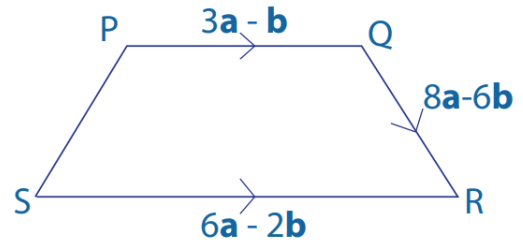
$$\vec{PQ} = 3\mathbf{a} - \mathbf{b}, \vec{QR} = 8\mathbf{a} - 6\mathbf{b}, \vec{SR} = 6\mathbf{a} - 2\mathbf{b}$$

X is a point on SP such that  $SX : XP = 4 : 1$

a)  $\vec{SX} =$

b)  $\vec{XR} =$

c) Show that  $\vec{PQ}$  is parallel to  $\vec{SR}$ .



Grade  
7 (4 Marks)

**Congratulations. You have completed this topic.**

**Now go back to your revision planner and rate yourself out of 10.**