# Vectors

Diagram

Description automatically generated with medium confidence

Diagram

Description automatically generated

Text

Description automatically generated

Diagram

Description automatically generated with medium confidence

A picture containing diagram

Description automatically generated

Unit vector magnitude always equal to 1.

Polygon

Description automatically generated with low confidence

Always equal to 1 regardless of direction

Graphical user interface, text, application, email

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated

Length =

= 5

Direction = (3/5,4/5)

= (0.6,0.8)

Diagram

Description automatically generated with low confidence

Diagram

Description automatically generated with medium confidence

Text

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated

a =

= 10

Unit vector = (6/10,8/10)

= (0.6,0.8)

Diagram

Description automatically generated

# Scaling

Diagram

Description automatically generated

Diagram

Description automatically generated

Diagram

Description automatically generated

(7,5)

Diagram

Description automatically generated

Text

Description automatically generated with medium confidence

Chart, radar chart

Description automatically generated

Diagram

Description automatically generated

Graphical user interface, text, application

Description automatically generated

A picture containing text, watch

Description automatically generated

Table

Description automatically generated with medium confidence

a.b = 4\*1+1\*-2

= 2

Diagram, radar chart, polygon

Description automatically generated with medium confidence

Diagram

Description automatically generated

Chart, line chart

Description automatically generated

Text, letter

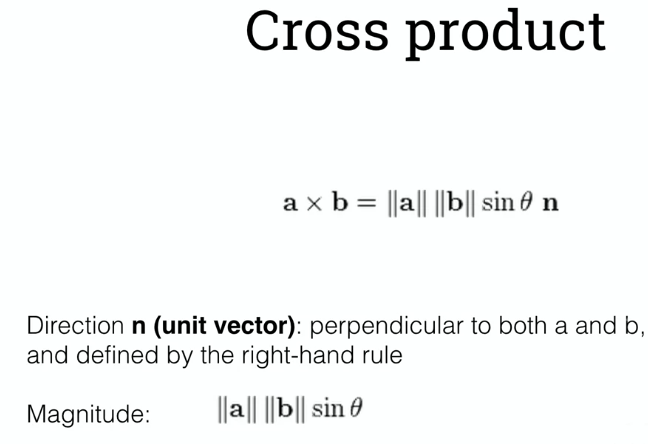
Description automatically generated

Diagram

Description automatically generated

Graphical user interface, text

Description automatically generated with medium confidence



Text, letter

Description automatically generated

Chart, line chart

Description automatically generated

A picture containing diagram

Description automatically generated

Diagram

Description automatically generated with medium confidence

# Quiz



Shape

Description automatically generated with low confidence

Graphical user interface, text, application, email

Description automatically generated

Background pattern

Description automatically generated

Background pattern

Description automatically generated

Background pattern

Description automatically generated

# **Objects and Meshes**

A picture containing diagram

Description automatically generated

A picture containing engineering drawing

Description automatically generated

Graphical user interface, text, application

Description automatically generated

Graphical user interface, text, application

Description automatically generated

Graphical user interface, text, application

Description automatically generated

Graphical user interface, text, application

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated

Summative quiz

Graphical user interface, application, Teams

Description automatically generated

A picture containing application

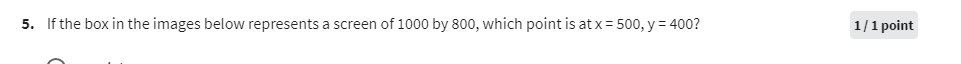
Description automatically generated

Graphical user interface, text, application, email

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated



Chart

Description automatically generated

Background pattern

Description automatically generated

||4,5,3|| =

= 7.07

Background pattern

Description automatically generated

||6,3,8|| =

= 10.44

(6/10.44, 3/10.44, 8/10.44) = (0.574, 0.287, 0.766) ≈ (0.57, 0.29, 0.77)



(4, 5, 3) · (6, 3, 8) = ax × bx +ay × by + az x bz

= 4\*6 + 5\*3 + 3\*8

= 63

Background pattern

Description automatically generated

(4, 5, 3) × (6, 3, 8)

=

= 5\*8 - 3\*3

= 31

=

= 3\*6 – 4\*8

= -14

=

= 4\*3 – 5\*6

= -18

(4, 5, 3) × (6, 3, 8) = (

= (31, -14, -18)

Graphical user interface, application

Description automatically generated

Distance =

=

= 6.4