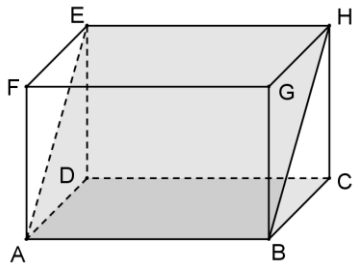
# Worksheet 3：Angle between two planes

Name: _____ ( ) Class: _____ Date:_____

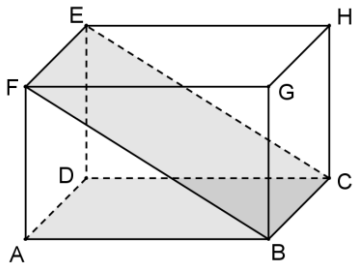
1. In each of the following figures of cuboid *ABCDEFGH*, name of the angle between the two shaded planes.

(a)



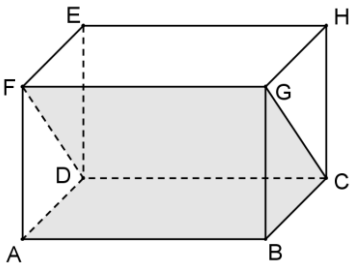

The angle between plane *ABCD* and plane *ABHE* is _____ .

(b)



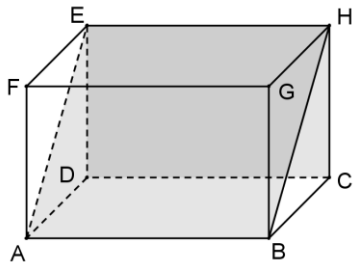

The angle between plane *ABCD* and plane *BCEF* is _____ .

(c)



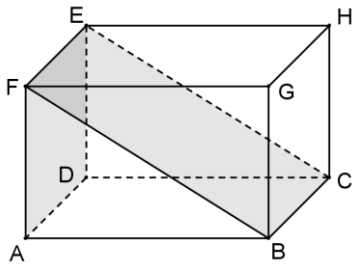

The angle between plane *ABCD* and plane *CDFG* is _____ .

(d)



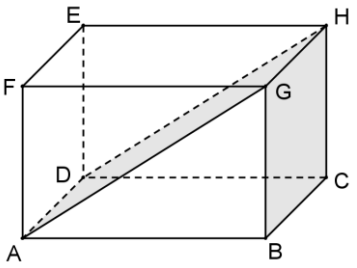

The angle between plane *ABHE* and plane *CDEH* is _____ .

(e)




The angle between plane *ADEF* and plane *BCEF* is _____ .

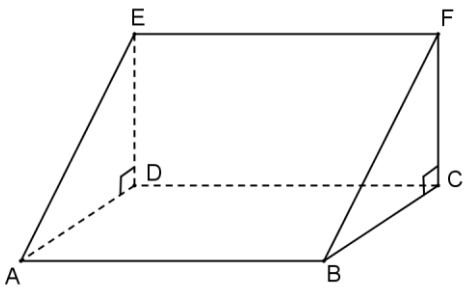
(f)




The angle between plane *ADHG* and plane *BCHG* is _____ .

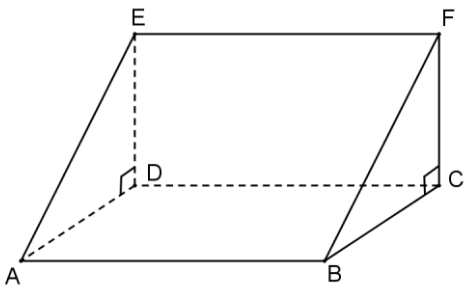
2. Each of the figures below shows a triangular prism *ABCDEF*. *ABCD* and *DCFE* are rectangles. Name of the angle between the two given planes.

(a)




The angle between plane *ABCD* and plane *ABFE* is _____ .

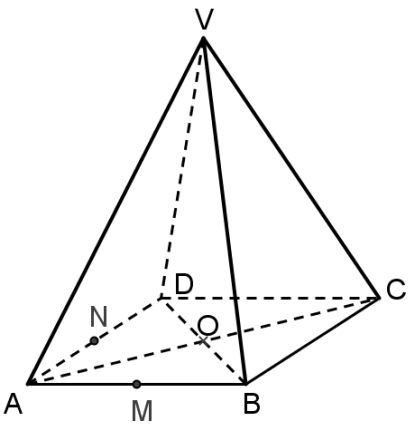
(b)




The angle between plane *ABFE* and plane *CDEF* is _____

3. Each of the figures below shows a right rectangular pyramid *VABCD*. *ABCD* is a rectangle. *O* is the intersection of *AC* and *BD*. *M* and *N* are the mid-points of *AB* and *AD* respectively.

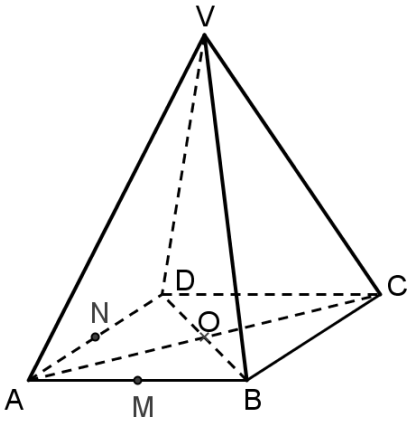
(a)




(i) The angle between plane *VAB* and plane *ABCD* is _____ .

(ii) Mark the angle on the above figure.

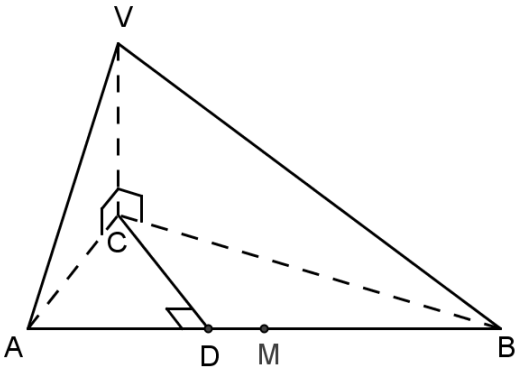
(b)




(i) The angle between plane *VAD* and plane *ABCD* is _____ .

(ii) Mark the angle on the above figure.

4. *VABC* is a triangular pyramid with altitude *VC*. *CD is* perpendicular to *AB*. *M* is the mid-point of *AB*.




(a) Name of the angle between plane*VAB* and plane *ABC*.

The angle between plane *VAB* and plane *ABC* is _____ .

(b) Mark the angle on the above figure.

(c) Compare the angles ∠VMC and ∠VBC.

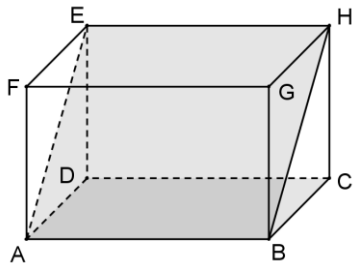
_____

# Worksheet 3：Angle between two planes (Answer)

Name: _____ (  ) Class: _____ Date:_____

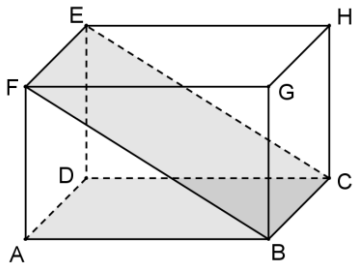
1. In each of the following figures of cuboid *ABCDEFGH*, name of the angle between the two shaded planes.

(a)



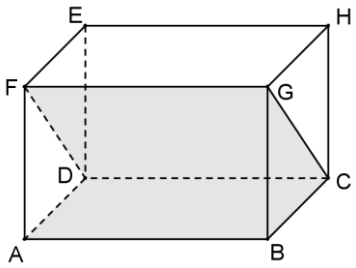

The angle between plane *ABCD* and plane *ABHE* is ∠CBH or ∠DAE.

(b)



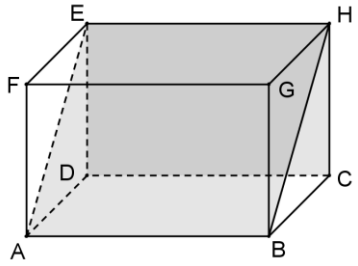

The angle between plane *ABCD* and plane *BCEF* is ∠FBA or ∠ECD.

(c)



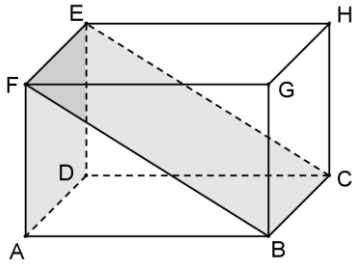

The angle between plane *ABCD* and plane *CDFG* is ∠BCG or ∠ADF.

(d)



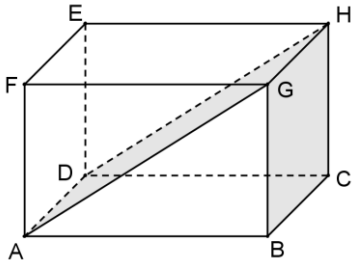

The angle between plane *ABHE* and plane *CDEH* is ∠BHC or ∠AED.

(e)




The angle between plane *ADEF* and plane *BCEF* is ∠BFA or ∠CED.

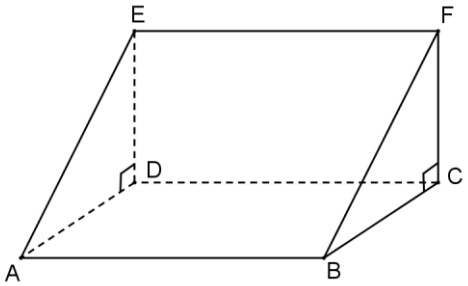
(f)




The angle between plane *ADHG* and plane *BCHG* is ∠AGB or ∠DHC.

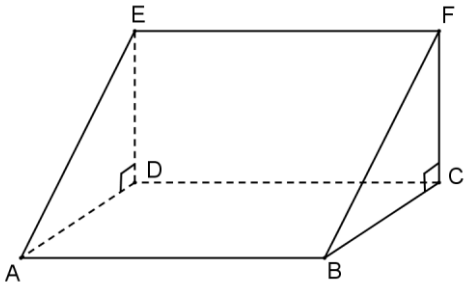
2. Each of the figures below shows a triangular prism *ABCDEF*. *ABCD* and *DCFE* are rectangles. Name of the angle between the two given planes.

(a)




The angle between plane *ABCD* and plane *ABFE* is ∠FBC or ∠EAD.

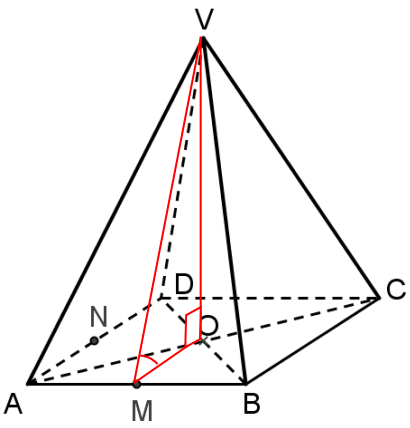
(b)




The angle between plane *ABFE* and plane *CDEF* is ∠BFC or ∠AED.

3. Each of the figures below shows a right rectangular pyramid *VABCD*. *ABCD* is a rectangle. *O* is the intersection of *AC* and *BD*. *M* and *N* are the mid-points of *AB* and *AD* respectively.

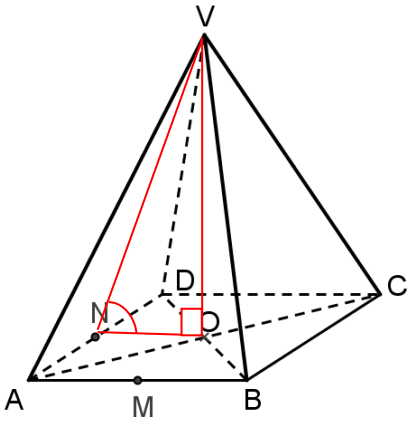
(a)




(i) The angle between plane *VAB* and plane *ABCD* is ∠VMO .

(ii) Mark the angle on the above figure.

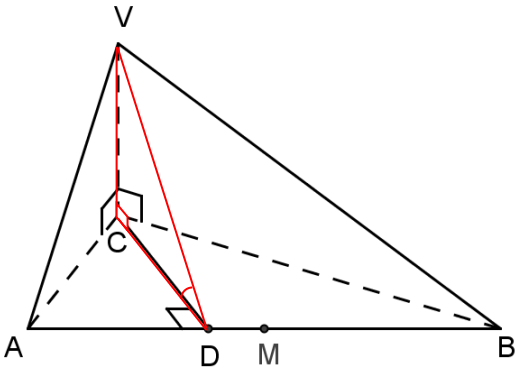
(b)




(i) The angle between plane *VAD* and plane *ABCD* is ∠VNO .

(ii) Mark the angle on the above figure.

4. *VABC* is a triangular pyramid with altitude *VC*. *CD is* perpendicular to *AB*. *M* is the mid-point of *AB*.




(a) Name of the angle between plane*VAB* and plane *ABC*.

The angle between plane *VAB* and plane *ABC* is ∠VDC .

(b) Mark the angle on the above figure.

(d) Compare the angles ∠VMC and ∠VBC.

∠VDC is larger than ∠VMC and ∠VBC.