

第三讲 平行线的构造

P₃ 例一. 1. ① $\angle ADE = \angle B$ ② $\angle EDB + \angle B = 180^\circ$ ③ $\angle AED = \angle C$ ④ $\angle DEC + \angle C = 180^\circ$ ⑤ $\angle FEC = \angle C$

练一练. $CD \parallel EF$

例二. 1. ① ⑤

练一练. ~~同旁内角互补, 两直线平行~~ ~~(垂直于同一条直线)~~ 同位角相等, 两直线平行

例三. 1. $\angle B - \angle C = 40^\circ$

练一练. $\angle 1 = \angle 2 + \angle 3$

例四. 1. 120°

练一练. 117°

例五. 1. 30°

练一练. 310°

例六. 合格

练一练. 418°

智慧高峰:

(1) $\angle DCE = 180^\circ - \angle ACB$.

理由如下:

由图可得

$$\angle DCE = \angle ACB - \angle ACE - \angle DCB$$

$$\because \angle ACB = 90^\circ - \angle DCE$$

$$\angle DCB = 90^\circ - \angle DCE$$

$$\therefore \angle DCE = \angle ACB - (90^\circ - \angle DCE) - (90^\circ - \angle DCE)$$

$$\therefore \angle DCE = 180^\circ - \angle ACB$$

(2) 存在

当 $\angle ACE = 30^\circ$ 时, $AD \parallel BC$

当 $\angle ACE = 45^\circ$ 时, $AC \parallel BE$

当 $\angle ACE = 120^\circ$ 时, $AD \parallel CE$

当 $\angle ACE = 135^\circ$ 时, $CD \parallel BE$

当 $\angle ACB = 165^\circ$ 时, $AD \parallel BE$.

P₈ 1. D. 2. C. 3. D 4. B. 5. A

