

5.2

19 $4x + 8x - 6 = 180$

$4x = 3y$
 $14 = y$

$8x = 144$
 $x = 18$

20 $3x - 40 = x$
 $-40 = -2x$
 $20 = x$

$y^2 = y + 30$
 $y^2 - y - 30 = 0$

$(y - 6)(y + 5) = 0$
 $y = 6$ $y = -5$

21 $26 = 3x - 2y$
 $4x = 4x + y$

$26 = 3x - 2y$
 $84 = 8x + 2y$

$26 = 3(10) - 2y$
 $-44 = -2y$
 $22 = y$

$110 = 11x$
 $10 = x$

22 $3x = 7y - 2$
 $4x + 1 = 9y$

$3x + 2 = 7y$
 $4x + 1 = 9y$

$12x + 8 = 28y$
 $-12x - 3 = -27y$
 $5 = y$

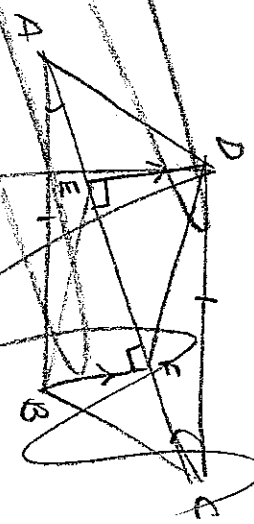
$3x = 7(5) - 2$
 $3x = 33$
 $x = 11$

Q3

Given: $\square ABCD$

Diagonals AC, BE intersect at E

Prove: DEBF is a parallelogram



1. $\square ABCD$
2. $DE \parallel FB$
3. $DF \parallel BE$
4. $DC \parallel AB$
5. $\angle CDE \cong \angle ABE$
6. $\angle CDE \cong \angle ABE$
7. $\angle CED \cong \angle AEB$
8. $\triangle CDE \cong \triangle ABE$

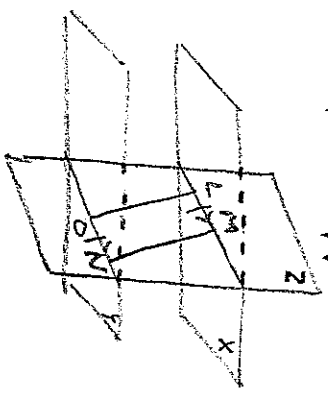
1. Given
2. 2 lines in plane \perp to same line \parallel
3. opp. sides \cong
4. Def \square
5. \parallel lines \rightarrow alt. \angle 's \cong
6. $\triangle CDE \cong \triangle ABE$
7. $\triangle CDE \cong \triangle ABE$
8. 1 pair opp. sides both \cong \parallel

Q4

Given: Plane X \parallel Plane Y

$LM \cong ON$

Prove: LMNO is a parallelogram



1. Plane X \parallel Plane Y
2. $LM \cong ON$
3. $LN \cong ON$
4. LMNO is a parallelogram

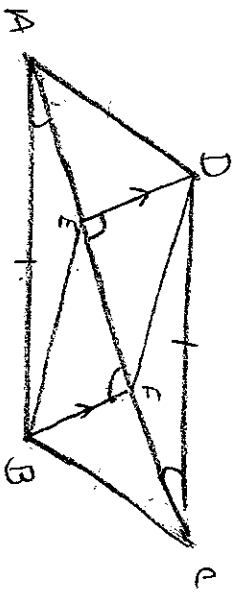
1. Given
2. \parallel planes cut by 3rd plane \rightarrow lines of intersection \parallel
3. Given
4. If 1 pair opp. sides is \cong \parallel \rightarrow \square

(5.2)

(23) Given: $\square ABCD$

$\overline{DE} \perp \overline{AC}$; $\overline{BF} \perp \overline{AC}$

Prove: $DEBF$ is \square



1. Given

2. 2 lines \perp to same line \parallel
3. \parallel lines \rightarrow alt. int. \angle 's \cong
4. def. \square
5. \parallel lines \rightarrow alt. int. \angle 's \cong
6. $\square \rightarrow$ opp. sides \cong
7. AAS
8. CPCTC
9. quad. has opp. sides $\parallel + \cong \rightarrow \square$

1. $\square ABCD$

$\overline{DE} \perp \overline{AC}$; $\overline{BF} \perp \overline{AC}$

2. $\overline{DE} \parallel \overline{BF}$

3. $\angle DEC \cong \angle BFA$

4. $\overline{DC} \parallel \overline{AB}$

5. $\angle BAC \cong \angle DCA$

6. $\overline{DC} \cong \overline{AB}$

7. $\triangle DEC \cong \triangle BFA$

8. $\overline{DE} \cong \overline{BF}$

9. $DEBF$ is \square

(A)

(A)

(S)

