

G5: B Level Test Review

Solve for x.

1)  $15x + 9 = 99$   
 $15x = 90$   
 $x = 6$

2)  $21x + 6 = 90$   
 $21x = 84$   
 $x = 4$

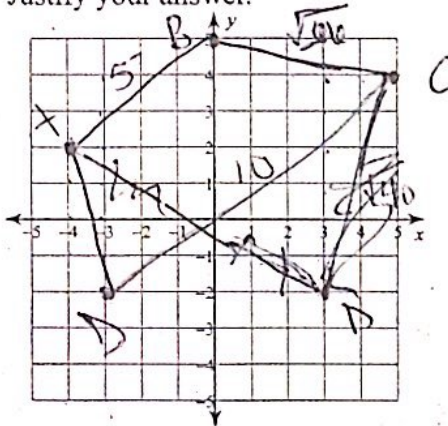
Find the measure of each angle indicated.

3)  $m\angle C$   $53x + 95 = 360$   
 $53x = 265$   
 $x = 5$

4)  $m\angle M$   $27x + 98 = 360$   
 $27x = 162$   
 $x = 6$

Plot A(-4, 2) B(0, 5) C(5, 4) and D(-3, -2)

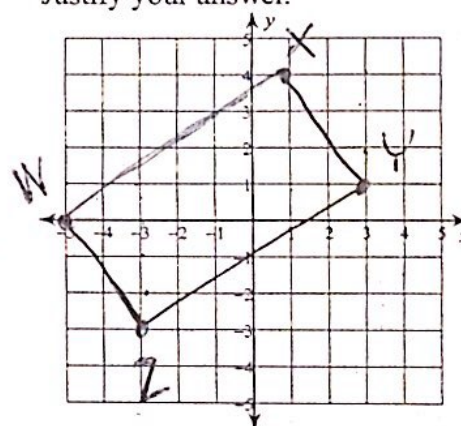
5) What kind of quadrilateral is ABCD? Justify your answer.



trapezoid  
 $\overline{AB} \parallel \overline{CD}$

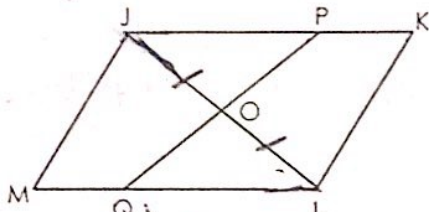
Plot points W(-5, 0) X(1, 4) Y(3, 1) & Z(-3, -3)

6) What type of quadrilateral is WXYZ? Justify your answer.



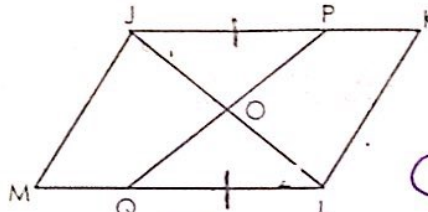
rectangle  
 $\overline{WX} \cong \overline{ZY}$   
 $\overline{WZ} \cong \overline{XY}$   
 all lines  $\perp$

1. Given:  $JKLM$  is a parallelogram;  
 $\overline{JO} \cong \overline{OL}$   
 Prove:  $\overline{OP} \cong \overline{OQ}$



Statement	Reason
$\overline{JO} \cong \overline{OL}$	Given
$JKLM$ is a $\square$	Given
$\overline{JK} \parallel \overline{ML}$	Def. of parallelogram
$\angle PJO \cong \angle LQO$	Alt. int. angles
$\angle JOP \cong \angle LOQ$	Vert. angles
$\triangle JOP \cong \triangle LOQ$	ASA $\cong$
$\overline{OP} \cong \overline{OQ}$	CPCTC

2. Given:  $JKLM$  is a parallelogram;  
 $\overline{JP} \cong \overline{QL}$   
 Prove:  $\overline{JL}$  and  $\overline{QP}$  bisect each other



$JKLM$  is a parallelogram  
 Given

$\overline{JK} \parallel \overline{ML}$   
 Def. of parallelogram

$\angle PJO \cong \angle LQO$   
 alt. int.  $\angle$ s

$\overline{JP} \cong \overline{QL}$   
 Given

$\angle JOP \cong \angle LOQ$   
 vertical angles

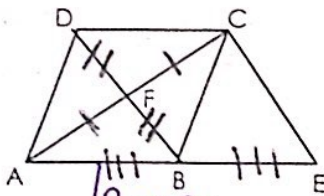
$\triangle JOP \cong \triangle LOQ$   
 AAS  $\cong$

$\overline{JO} \cong \overline{OL}$   
 CPCTC

$\overline{OP} \cong \overline{OQ}$   
 CPCTC

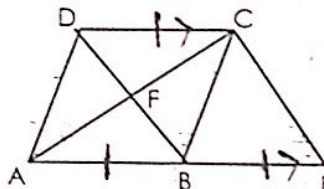
$\overline{JL}$  and  $\overline{QP}$  bisect each other  
 Def. of bisector

5. Given:  $\overline{AF} \cong \overline{CF}$ ;  $\overline{BF} \cong \overline{DF}$ ;  
 $\overline{AB} \cong \overline{BE}$   
 Prove:  $\overline{CD} \cong \overline{BE}$



Statement	Reason
$\overline{AF} \cong \overline{CF}$	Given
$\overline{BF} \cong \overline{DF}$	Given
$\angle DFC \cong \angle AFB$	Vertical angles are $\cong$
$\triangle APB \cong \triangle CFB$	SAS $\cong$
$\overline{AB} \cong \overline{BE}$	Given
$\overline{AB} \cong \overline{CD}$	CPCTC
$\overline{CD} \cong \overline{BE}$	Substitution

6. Given:  $\overline{CD} \cong \overline{BE}$ ;  $\overline{CD} \parallel \overline{BE}$ ;  
 $\overline{AB} \cong \overline{BE}$   
 Prove:  $\overline{AF} \cong \overline{CF}$



$\overline{CD} \cong \overline{BE}$   
 Given

$\overline{AB} \cong \overline{BE}$   
 Given

$\overline{CD} \parallel \overline{BE}$   
 Given

$\overline{CD} \cong \overline{AB}$   
 Substitution

$\angle CDF \cong \angle FAB$   
 alt. interior angles

$\angle CDF \cong \angle BAF$   
 alt. interior angles

$\triangle FCD \cong \triangle FAB$   
 ASA  $\cong$

$\overline{AF} \cong \overline{CF}$   
 CPCTC