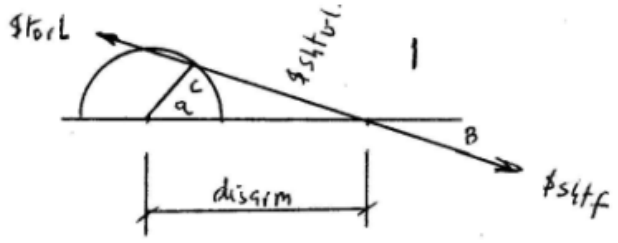
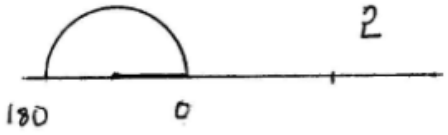
```
<?php

  $arm    = $_GET['arm'];
  $a      = $_GET['ang'];
  $disarm = $_GET['dis'];
  $tor    = $_GET['tor'];

  $dis   =  $disarm -$arm;   // Fig 1
  $torl  = $tor / $arm;
  $torl  = number_format($torl,1);

// Find sheet travel
// Find sheet/centre angle
// Find sheet/arm angle

if ($a == 0)              // Fig 2
          {
          $b     = 0;
          $c     = 180;
          $shtvl = 0;
          $shtf  = 0;
          }

if ($a<90 && $a>0) //23                  Fig 3
          {
          $arad  = deg2rad($a);
          $oppa  = $arm * sin($arad);
          $disa  = $arm * cos($arad);
          $disb  = $disarm - $disa;
          $brad  = atan ($oppa / $disb);
          $b     = rad2deg($brad);
          $b     = number_format($b,0);
          $c     = 180 - $a - $b;
          $sht   = $disb / cos($brad);
          $sheet = $sht - $dis;
          $shtvl = number_format($sheet,1);
          }

if ($a == 90)  //38                      Fig 4
          {
          $brad  = atan($arm / $disarm);
          $b     = rad2deg($brad);
          $b     = number_format($b, 0);
          $c     = 90 - $b;
          $sht   = $arm/ sin($brad);
          $sheet = $sht - $dis;
          $shtvl = number_format($sheet,1);
          $shtf  = $torl / cos($brad);
          $shtf  = number_format($shtf, 1);
          }
```

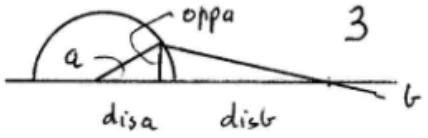
```
if ($a> 90 && $a< 180)  //51            Fig 5
        {
        $d     = 180 - $a;
        $drad  = deg2rad($d);
        $oppd  = $arm * sin($drad);
        $disd  = $arm * cos($drad);
        $dise  = $disarm + $disd;
        $brad  = atan ($oppd / $dise);
        $b     = rad2deg($brad);
        $b     = number_format ($b, 0);
        $c     = 180 - $a - $b;
        $sht   = $oppd / sin($brad);
        $sheet = $sht - $dis;
        $shtvl = number_format($sheet,1);
        }

if ($a == 180)                  // Fig 6
        {
        $b     = 0;
        $c     = 0;
        $sht   = $arm * 2;
        $shtvl = number_format($sht, 1);
        $shtf = 0;
        }

// Find angle when torque and sheet are inline, tangent to the arm arc 76   Fig 7

        $aradts = acos($arm / $disarm);
        $ats    = rad2deg($aradts);
        $ats    = number_format($ats, 0);
        $s      = 90 - $ats;

// Find Sheet load  83                  Fig 8

if ($a>0 && $a<$ats)
        {
        $e    = 90 - $a;
        $erad = deg2rad($e);
        $disc = $torl * cos($erad);
        $shtf = $disc / cos($brad);
        $shtf = number_format($shtf, 1);
        }

if ($a == $ats)  // 94
        {
        $shtf = $torl;
        $shtf = number_format($shtf, 1);
        }
```

```
if ($a>$ats && $a<90)  // 100                    Fig 9
        {
        $f    = 90 - $a;
        $frad = deg2rad($f);
        $disf = $torl  * cos($frad);
        $shtf = $disf / cos($brad);
        $shtf = number_format($shtf, 1);
        }

if ($a == 90) // 109                        Fig 10
        {
        $shtf = $torl / cos($brad);
        $shtf = number_format($shtf, 1);
        }

if ($a>90 && $a<180)  // 115             Fig 11
        {
        $g    = $a -90;
        $grad = deg2rad($g);
        $oppg = $torl * cos($grad);
        $shtf = $oppg / cos($brad);
        $shtf = number_format($shtf, 1);
        }
```

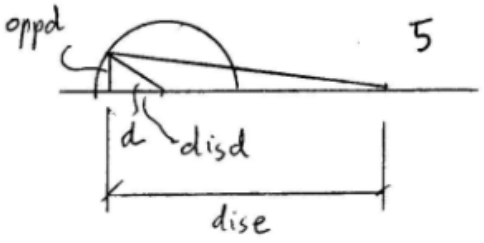
```
print "<html>
        <head>
          <title>Sheet Load Calculator</title>
        </head>\n";

                print "<hr />\n";

Print "<table >

        <tr><td>$tor kg.cm  </td><td>   Servo torque</td></tr>
        <tr><td>$disarm cm  </td><td>   Distance between servo centre and sheet fixed
                                                                        point</td></tr>
        <tr><td>$arm cm     </td><td>   Arm length</td></tr>
        <tr><td>$a deg      </td><td>   A &ndash; Arm angle</td></tr>

        <tr><td> <hr />     </td><td> <hr />     </td></tr>

        <tr><td>$s deg      </td><td>   S &ndash;  Fixed servo angle to centreline with no
                                                                servo side force</td></tr>

        <tr><td>$torl kg    </td><td>   S &ndash;  Force at end of arm due to torque</td></tr>

        <tr><td> <hr />     </td><td> <hr />     </td></tr>

        <tr><td>$b deg      </td><td>   B &ndash; Sheet to centreline angle</td></tr>
        <tr><td>$c deg      </td><td>   C &ndash; Sheet to arm angle</td></tr>

        <tr><td> <hr />     </td><td> <hr />     </td></tr>


        <tr><td>$shtvl cm   </td><td>   Sheet travel</td></tr>
        <tr><td>$shtf kg    </td><td>   Sheet force</td></tr>

    </table>";

print "<hr />\n";
print "<small>Use your Back Button</small>\n";
print "</body></html>";

?>
```

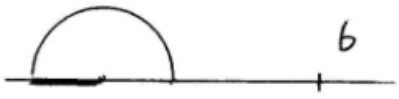

$torL
$shtorL
1
c
a
B
disgrm
$shtf

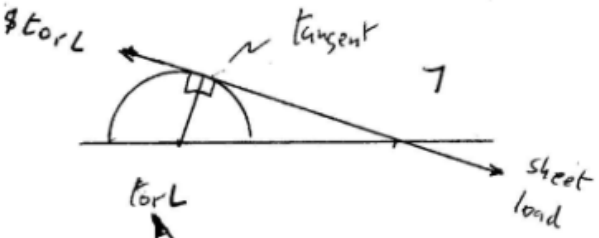

2
180
0

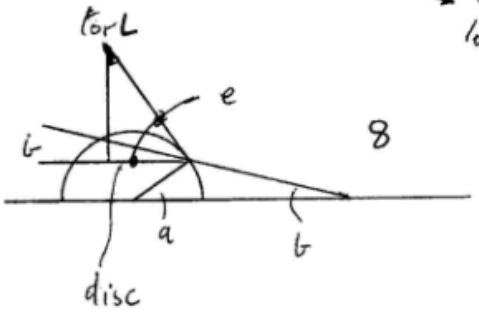

oppa
3
a
b
disa
disb

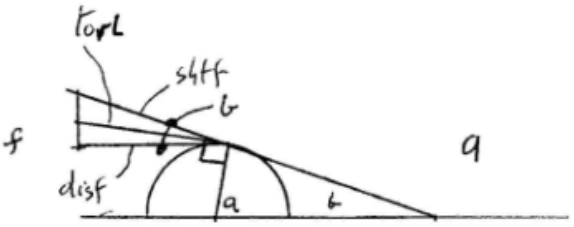

4
c
qu
b

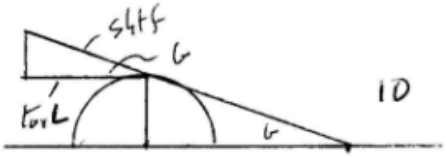

oppd
5
d
disd
dise

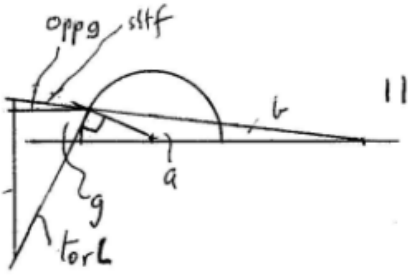

6


$torL
tangent
7
sheet
load


torL
e
8
b
a
b
disc


torL
shtf
b
f
9
disf
a
b


shtf
b
torL
10
b


oppg
sltf
b
11
a
g
torL