

Table 6-1 Problem 6-1 results for all rows of Table P6-1

Row	S _{max}	S _{min}	delta	G _{mean}	G _{alt}	R	A
a	1 000	0	1 000	500	500	0.0E0	1.0E0
b	1 000	-1 000	2 000	0	1 000	-1.0E0	1.0E10
c	1 500	500	1 000	1 000	500	3.3E-1	5.0E-1
d	1 500	-500	2 000	500	1 000	-3.3E-1	2.0E0
e	500	-1 000	1 500	-250	750	-2.0E0	-3.0E0
f	2 500	-1 200	3 700	650	1 850	-4.8E-1	2.8E0
g	0	-4 500	4 500	-2 250	2 250	1.0E10	-1.0E0
h	2 500	1 500	1 000	2 000	500	6.0E-1	2.5E-1

Table 6-2 Problem 6-2 results for all rows of Table P6-1. Strengths in psi.

Row	S _{ut}	S _m	S _{prime}
a	90 000.	81 000.	45 000.
b	250 000.	225 000.	100 000.
c	120 000.	108 000.	60 000.
d	150 000.	135 000.	75 000.
e	25 000.	22 500.	12 500.
f	70 000.	63 000.	35 000.
g	40 000.	36 000.	20 000.
h	35 000.	31 500.	17 500.

PROBLEM 6-3

S _{aa}	402.4	MPa	alternating stress in pedal
S _{ma}	402.4	MPa	mean stress in pedal
S _{ut1}	500.0	MPa	ultimate tensile strength
S _{e1}	149.5	MPa	endurance strength
N	0.286		fatigue safety factor in pedal arm

Table 6-23 Results for all rows of Problem 6-23. Stresses and strengths in MPa.

Row	G _m	G _a	S _{ut}	N _f
a	21.1	63.2	468.0	3.0
b	21.4	64.3	494.0	3.0
c	19.9	59.8	428.0	3.0
d	21.0	63.1	457.0	3.0
e	19.3	57.9	450.0	3.0
f	16.2	48.7	369.0	3.0
g	12.2	36.6	269.0	3.0
h	7.1	21.3	164.0	3.0
i	6.8	20.5	154.0	3.0
j	6.3	19.0	134.0	3.0
k	5.6	16.7	129.0	3.0
l	2.4	7.1	58.0	3.0
m	3.3	9.9	80.0	3.0
n	4.7	14.1	105.0	3.0

Table 6-24 Results for all rows of Problem 6-24. Stresses and strengths in MPa.

Row	G _m	G _a	S _{ut}	N _f
a	263.2	87.7	676	1.5
b	262.5	87.5	686	-1.5
c	269.3	89.8	680	1.5
d	336.7	112.2	855	1.5
e	239.1	79.7	629	1.5
f	304.5	101.5	790	1.5
g	263.7	87.9	674	1.5
h	93.8	31.3	245	1.5
i	109.1	36.4	283	1.5
j	101.5	33.8	255	1.5
k	89	29.7	234	1.5
l	72.3	24.1	195	1.5
m	81.3	27.1	217	1.5
n	96.8	32.3	249	1.5

Table 6-33 Results for all rows of Table P6-6 for Problem 6-33

Row	S _{ut} (MPa)
a	413.
b	240.
c	282.
d	252.
e	310.
f	248.
g	411.
h	433.
i	188.
j	305.
k	221.
l	261.
m	303.
n	262.

Table 6-34 Results for all rows of Table P6-6 for Problem 6-34

Row	S _{ut} (MPa)
a	315.
b	193.
c	218.
d	188.
e	234.
f	188.
g	304.
h	315.
i	145.
j	228.
k	165.
l	196.
m	231.
n	203.

Table 6-35 Results for all rows of Table P6-6 for Problem 6-35

Row	S _{ut} (MPa)
a	170.
b	115.
c	141.
d	98.
e	112.
f	89.
g	173.
h	192.
i	104.
j	119.
k	82.
l	96.
m	140.
n	124.

Table 6-36 Results for all rows of Table P6-6 for Problem 6-36

Row	S _{ut} (MPa)
a	115.
b	78.
c	95.
d	65.
e	74.
f	59.
g	115.
h	128.
i	69.
j	79.
k	54.
l	64.
m	93.
n	83.