

Energy Sample Test Answers

1-2
2-3
3-2
4-4
5-4
6-3
7-2
8-4
9-1
10-3

11-1
12-4
13-4
14-1
15-4
16-4

17-3
18-2
19-2
20-3

21-160 Joules

22-500 Joules
10 m/s

23-1.5 kg
-3 Joules
-1 Joule

24-1250 Joules

25- 1.5×10^3 Joules
-500 Watts

26-40 Watts

Problems 27

116 Not sure don't
have exact test
with me
say $h = 24m$

117

$$PE = mgh$$

$$= 650k(10\%)(24m)$$

$$= 156000 \text{ Joules}$$

118 More KE on 3rd hill

28 a- $PE = mgh$
 $= 6k(10\%)(35m)$
 $= 3300 \text{ J}$

b- $KE = \frac{1}{2}mv^2$
 $= \frac{1}{2}6k(30\%)^2$
 $= 2700 \text{ Joules}$

c- $3300 - 2700$
 $= 600 \text{ J}$

d- lost to
Air resistance
& changed to
heat

29 - $F = kx$
 $6N = k(.04m)$
 $k = 150 \frac{N}{m}$

30 -
a) Work changes to PE_{spring}
changes to PE_{gravity}

b) same PE stored in spring
but now m goes down
so PE_{gravity} is same
but less m so h must
go up