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**Note**: Highlight your answers in yellow.

1. Write the command that can be used to perform the following:
   1. Compress the symbolic link /root/sfile using the compress utility and display the compression ratio.
   2. Compress the contents of the directory /root/dir1 using the gzip utility and display the compression ratio.
   3. View the contents of the file /root/letter.zip.
   4. Compress the file /root/letter using xz fast compression.
   5. Find the compression ratio of the file /root/letter.gz.
   6. Perform a test compression of the file /root/sample using the bzip2 utility.
   7. Compress the file /root/sample using the bzip2 utility while minimizing memory usage during the compression.

1. compress -f -v /root/sfile

2. gzip -r -v /root/dir1

3. unzip -v /root/letter.zip

4. xz -1 /root/letter

5. gz -v /root/letter.gz

6. bunzip2 -t /root/sample

7. bzip2 -s /root/sample

1. Write the command that can be used to perform the following:
2. Back up the contents of the /var directory (which contains symbolically linked files) to the second nonrewinding SCSI tape device on the system using the tar utility.
3. Append the file /etc/inittab to the archive created in Exercise 2a.
4. Create a tarball called /stuff.tar.gz that contains all files in the /root/stuff directory.
5. Use the cpio utility to back up all files in the /var directory (which contains symbolically linked files) to the first rewinding IDE tape device that has a block size of 5KB.
6. Perform a full filesystem backup of the /var filesystem using the dump utility and record the event in the /etc/dumpdates file.
7. Create an image of the /dev/sdb4 filesystem to the /sdb4.img file.
8. View the contents of the archives created in Exercises 2a, 2c, 2d, and 2e.
9. Extract the contents of the archives created in Exercises 2a and 2c to the /root directory.
10. Extract the contents of the archives created in Exercises 2d and 2e to their original locations.
11. Restore the image of the /dev/sdb4 filesystem created in Exercise 2f.

1. cd/ var

tar -cf /dev/nst1\*

2. cd /etc/inittab

tar -r /dev/nst1

3. mkdir /stuff.tar.gz

cd/root/stuff

gz -cf /stuff.tar.gz

4. cd /var

cpio -BO /dev/ht0

5. cd /var

dump -0 -u /var/etc/dumpdates

6. dd if=/dev/sdb4 of=/sdb4.img

7. tar -t /dev/nst1

8. cd /root

tar -xz /dev/nst1

cd /stuff.tar.gz

gunzip -xzf /stuff.tar.gz

9. cd /dev/ht0

cpio -I /var

restore /var/etc/dumpdates

10. umount /dev/sdb4

dd if=/sdb4.img of=/dev/sdb4