## Calculate the value of each.

1) $5!=$
2) 3 ! $=$
3) $\frac{8!}{5!}=$
4) $\frac{2!\times 3!}{4!}=$
5) $4!-3!=$
6) $2!\times 3!=$

Solve each word problems.
7) In how many ways can Tony choose to watch his 5 favorite movie?
8) A person has 5 songs to choose from and will perform 3 . How many different ways can he do this?
9) How many different ways can letters in APPLE be arranged?
10) How many different ways can you arrange two of the letters in the word MATH?
11) In how many ways may 8 people form a circle for a folk dance?
12) How many ways can 6 people sit around a campfire?

## Answers

Calculate the value of each.

1) $5!=120$
2) $3!=6$
3) $\frac{8!}{5!}=336$
4) $\frac{2!\times 3!}{4!}=\frac{1}{2}$
5) $4!-3!=18$
6) $2!\times 3!=12$

Solve each word problems.
7) In how many ways can Tony choose to watch his 5 favorite movie?

120
8) A person has 5 songs to choose from and will perform 3 . How many different ways can he do this?
60
9) How many different ways can letters in APPLE be arranged?

60
10) How many different ways can you arrange two of the letters in the word MATH?

12
11) In how many ways may 8 people form a circle for a folk dance?

5040
12) How many ways can 6 people sit around a campfire?

120

