Mixed operations word problems

A play center has an indoor playground and 4 party rooms. Children can go in to play or have their birthday parties there.

1. The center is open for 11 hours each day. Each party takes 3 hours. What is the maximum number of parties the center can host in a day?

2. If the center hosts the maximum number of parties, how much time is left to clean each party room between parties?

3. There is a limit of 85 children in the indoor playground. If there are 47children playing in the playground, how many more children can the staff let in?

4. The party host can bring 20 children to the indoor playground. If there are two parties in the play center, how many more children can the staff let in?

5. The party room costs $48 to rent. If there are more than 20 children, the center will charge each extra guest $3. How much will a party of 28 children cost?

6. Write an equation using "x" and then solve the equation.
The play center charges each child $6 of admission. If there are x children, the play center receives $402 for admission.

Answers

1. 11 ÷ 3 = 3 remainder 2
   Each room can host 3 parties each day.
   3 x 4 = 12
   The center can host up to 12 parties in a day.

2. Each room will host 3 parties, each lasting 3 hours.
   Total party time 3 * 3 = 9 hours
   Total time the center is open = 11 hours
   Time left for cleaning = 11 hours – 9 hours = 2 hours = 120 minutes.
   Time left after each party = 120 / 3 = 40 minutes/party.

3. 85 – 47 = 38
   The staff can let in 38 more children.

4. 85 – (20 x 2) = 45
   The staff can let in 45 more children.

5. 28 – 20 = 8
   There are 8 extra guests.
   48 + (3 x 8) = $72
   A party of 28 children costs $72.

6. 6x = 402
   x = 67
   There were 67 children.

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