

# WORKBOOK FOR CALCULATING THE HEBREW CALENDAR

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## INTRODUCTION

As we draw closer to the end times and the Great Tribulation, we know that the world will be increasingly filled with turbulence. There may come a day when we are scattered and persecuted, and will not have access to convenient online Hebrew calendar calculators to determine the Holy Days of God. It might be wise to prepare for this possibility by learning how to calculate the calendar so we can have this skill safely tucked away in our minds.

Another reason to learn to calculate the calendar is that we should be about our Father's business, growing in grace and knowledge. The Bible tells us that we will be kings and priests in the Kingdom of God. Providing the world with the calendar of God's Holy Days will certainly be one of our duties. The newly converted people of the world will be looking to the saints for this knowledge.

The following web site for the Christian Biblical Church of God has a Hebrew calendar calculator that uses the postponements. <http://www.cbcg.org/Calendar/index.html>

This calculator will be useful in checking the accuracy of your work as you follow the steps in this workbook. Utilize the online calendar calculator and this workbook to calculate the calendar just before the Day of Trumpets each year. Soon, calculating the Hebrew calendar will become as familiar to you as the times tables you learned in elementary school.

## STEP I

### SELECT A STARTING YEAR AND THE YEAR YOU WISH TO CALCULATE.

The starting year should have no postponements and be close to the year you wish to calculate so that you will not have to create a lengthy table of years in Step II. In order to find the information for your starting year, utilize the online calendar calculator: <http://www.cbcg.org/Calendar/index.html>

1. In the online calendar, type in a starting year several years before the one you wish to calculate and click 'Get Calendar'.
2. Then click 'Trumpets Declaration'. The second line will tell you if this year has any postponements. If it does, go back to the starting screen and enter another year. Do this until you find a year with no postponements. No postponements will simplify the calculations.
3. Once you have found a starting year with no postponements, insert the information from the Trumpets Declaration page into the box on the right below and following the example on the left.

In the online calendar on the Trumpets Declaration page:

- A. The Hebrew year number is found at the end of line 4.
  - B. The Gregorian Date of Molad is found on line 1.
  - C. Molad info is found on line 1. 1d = Sunday, 2d = Monday, 3d = Tuesday, 4d = Wednesday, 5d = Thursday, 6d = Friday, 0d = Saturday.
4. For the year you wish to calculate, go back to the original screen, type in the year, and enter from the Trumpets Declaration page only the Hebrew year number and corresponding Gregorian year. Everything else you are going to calculate.

EXAMPLE	YOURS
What is the starting point? (Choose a date that has no postponements) 1. Hebrew Year Number: <b>5759</b> 2. Corresponding Gregorian Year: <b>1998-1999</b> 3. Starting Molad occurred at: <b>2d 12h 1005p</b> 4. Day of the week: <b>2d = Monday</b> 5. Gregorian Date of Molad: <b>9/21/1998</b>  What is the year you wish to calculate? 6. Hebrew Year Number: <b>5766</b> 7. Corresponding Gregorian Year: <b>2005-2006</b>	What is the starting point? (Choose a date that has no postponements) 1. Hebrew Year Number: 2. Corresponding Gregorian Year: 3. Starting Molad occurred at: 4. Day of the week: 5. Gregorian Date of Molad:  What is the year you wish to calculate? 6. Hebrew Year Number: 7. Corresponding Gregorian Year:

## STEP II

### FIND THE NUMBER OF MONTHS BETWEEN THE STARTING YEAR AND THE YEAR YOU WISH TO CALCULATE

Enter in the box below on the right the Hebrew years from the starting year to the Hebrew year just BEFORE the one you wish to calculate. Divide each year by 19 and write in the remainder. The remainder will tell you whether the year is a common year with 12 months or a leap year with 13 months.

- Leap years occur in years 3, 6, 8, 11, 14, 17 and 19 of a 19-year cycle

If the year is a common year, insert 12 months. If a Leap year, insert 13 months.

Then total up the number of months between your starting year and ending year. Remember, do not include the ending year in the list. The months of the year just before the one you wish to calculate will bring you to Tishri 1 of the year you want.

EXAMPLE				YOURS			
Months are calculated between Hebrew years: <b>5759 and 5766.</b>				Months are calculated between Hebrew years:			
YEAR	DIVIDE YEAR BY 19	LEAP YEAR?	MONTHS	YEAR	DIVIDE YEAR BY 19	LEAP YEAR?	MONTHS
<b>5759</b>	<b>303 remainder 2</b>	<b>No</b>	<b>12</b>				
<b>5760</b>	<b>303 remainder 3</b>	<b>Yes</b>	<b>13</b>				
<b>5761</b>	<b>303 remainder 4</b>	<b>No</b>	<b>12</b>				
<b>5762</b>	<b>303 remainder 5</b>	<b>No</b>	<b>12</b>				
<b>5763</b>	<b>303 remainder 6</b>	<b>Yes</b>	<b>13</b>				
<b>5764</b>	<b>303 remainder 7</b>	<b>No</b>	<b>12</b>				
<b>5765</b>	<b>303 remainder 8</b>	<b>Yes</b>	<b>13</b>				
<b>TOTAL MONTHS</b>			<b>87</b>	<b>TOTAL MONTHS</b>			

## STEP III

A.

### MULTIPLY THE NUMBER OF MONTHS BY THE LENGTH OF A MOLAD

- A month or Molad is calculated as 29 days, 12 hours, and 793 parts

EXAMPLE	YOURS
<b>793p times 87 = 68,991p</b> <b>12h times 87 = 1,044h</b> <b>29d times 87 = 2,523d</b>	<b>793p times</b> <b>12h times</b> <b>29d times</b>

**B.**  
**ROUND THE SMALLER UNITS INTO THE LARGER UNITS TO FIND THE AMOUNT OF TIME BETWEEN STARTING AND ENDING MOLADS**

- For example, 75 minutes would be rounded into 1 hour and 15 minutes.
- There are 1,080 parts in an hour, 24 hours in a day and 7 days in a week.

EXAMPLE	YOURS
Result from Step III A: <b>2,523d 1,044h 68,991p</b>	Result from Step III A:
<b>68,991</b> parts divided by 1,080 parts per hour =	parts divided by 1,080 parts per hour =
<b>63</b> hours with remainder	hours with remainder
<b>951</b> parts	parts
<b>1,044</b> hours plus	hours plus
<b>63</b> rounded hours =	rounded hours =
<b>1,107</b> hours divided by 24 hours per day =	hours divided by 24 hours per day =
<b>46</b> days with remainder	days with remainder
<b>3</b> hours	hours
<b>2,523</b> days plus	days plus
<b>46</b> rounded days =	rounded days =
<b>2,569</b> days	days
<ul style="list-style-type: none"> <li>• We do not yet divide the days by weeks. We now know the amount of time between the Starting Molad, Year <b>5759 1998-99</b> and Ending Molad Year <b>5766 2005-06</b>  <b>2,569d 3h 951p</b></li> </ul>	<ul style="list-style-type: none"> <li>• We do not yet divide the days by weeks. We now know the amount of time between the Starting Molad, Year and Ending Molad, Year</li> </ul>

**STEP IV**

**A**  
**ADD THE AMOUNT OF TIME BETWEEN THE MOLADS FROM STEP III B TO THE STARTING MOLAD IN STEP I TO FIND ONLY THE HOURS AND PARTS OF THE TENTATIVE ENDING MOLAD**

EXAMPLE	YOURS
Starting Molad of Year <b>5759 1998-99</b> from Step I # 3: <b>2d 12h 1005p</b> to Ending Molad of Year <b>5766 2005-06</b> from Step III B: <b>2,569d 3h 951p</b>	Starting Molad of Year from Step I # 3: to Ending Molad of Year from Step III B:
<b>951</b> ending parts plus	ending parts plus
<b>1,005</b> starting parts =	starting parts =
<b>1,956</b> parts	parts

<b>3</b>	ending hours plus		ending hours plus
<b>12</b>	starting hours =		starting hours =
<b>15</b>	hours		hours
• We do not yet add the days Results: <b>15h 1,956p</b>		• We do not yet add the days Results:	

**B.  
ROUND THE SMALLER UNITS INTO THE LARGER UNITS TO FIND THE TENTATIVE  
ENDING MOLAD WITHOUT ROUNDED DAYS**

- There are 1,080 parts in an hour, 24 hours in a day and 7 days in a week

EXAMPLE		YOURS	
Result from Step IV A: <b>15h 1,956p</b>		Result from Step IV A:	
Elapsed days between molads from step III B: <b>2,569d</b>		Elapsed days between molads from step III B:	
<b>1,956</b>	parts divided by 1,080 parts per hour =		parts divided by 1,080 parts per hour =
<b>1</b>	hours with remainder		hours with remainder
<b>876</b>	parts		parts
<b>15</b>	hours plus		hours plus
<b>1</b>	rounded hours =		rounded hours =
<b>16</b>	hours divided by 24 hours per day =		hours divided by 24 hours per day =
<b>0</b>	days with remainder		days with remainder
<b>16</b>	hours		hours
<b>2,569</b>	days plus		days plus
<b>0</b>	rounded days =		rounded days =
<b>2,569</b>	days		days
Tentative Ending Molad for Year <b>5766 2005-06:</b> <b>2,569d 16h 876p</b>		Tentative Ending Molad for Year:	

**C.  
NOTE THE NUMBER OF DAYS FROM STEP IV B TO LATER DETERMINE THE ENDING  
GREGORIAN DATE**

EXAMPLE	YOURS
Number of days from Step IV B - This number of days will be necessary to determine the Gregorian date for the Year: <b>5766 2005-06:</b> <b>2,569d</b>	Number of days from Step IV B - This number of days will be necessary to determine the Gregorian date for the Year:

**D.  
ADD THE STARTING AND ENDING MOLAD DAYS ONLY TO DETERMINE THE ENDING  
MOLAD DAY OF THE WEEK.**

- Days of the week are designated (1) Sunday, (2) Monday, (3) Tuesday, (4) Wednesday, (5) Thursday, (6) Friday, (0) Saturday
- Hours are determined from (0) hour at 6 PM the previous evening.

EXAMPLE		YOURS	
Let's now add the days of the starting and ending Molads and determine the day of the week:		Let's now add the days of the starting and ending Molads and determine the day of the week:	
Starting Molad of the Year: <b>5759 1998-99</b> from Step I # 3: <b>2d 12h 1,005p</b> Ending Molad of Year <b>5766 2005-06</b> from Step IV B: <b>2,569d 3h 951p</b>		Starting Molad of the Year from Step I # 3: Ending Molad of the Year from Step IV B:	
<b>2,569</b>	ending days plus		ending days plus
<b>2</b>	starting days =		starting days =
<b>2,571</b>	days divided by 7 days per week =		days divided by 7 days per week =
<b>367</b>	weeks with remainder		weeks with remainder
<b>2</b>	days		days
• The remainder of days gives us the day of the week for our Molad.		• The remainder of days gives us the day of the week for our Molad.	
So the resulting Tentative ending Molad for the Year <b>5766 2005-06</b> with ending days taken from Step IV D and ending hours and parts taken from Step IV B is: <b>2d 16h 876p</b> That is: <b>Monday in the 16th hour (10AM) and 876 parts, with 2,569 elapsed days.</b>		So the resulting Tentative ending Molad for the Year  with ending days taken from Step IV D and ending hours and parts taken from Step IV B is:  That is:	

**STEP V**  
**APPLY THE RULES OF POSTPONEMENT**

**A.**  
**RULE 1: MOLAD ZAKEIN**

When the Molad of Tishri occurs at or after noon (18 hours 0 parts) the declaration of Tishri 1 is advanced to the next day.

EXAMPLE	YOURS
Our Molad for year: <b>5766 2005-06</b> From Step 4D: <b>2d 16h 876p</b> Our Molad occurs at <b>16h</b> . So it <b>is not</b> a Molad Zakein Tishri 1 is Tentative Molad: <b>2d 16h 876p</b>	Our Molad for year: From Step 4D: Our Molad occurs at: So it a Molad Zakein Tishri 1 is Tentative Molad:

**B.**  
**RULE 2: LO A DU ROSH**

If the Molad of Tishri occurs on a Sunday, Wednesday, or Friday, the declaration of Tishri 1 is postponed a day. If Molad Zakein places Tishri 1 on one of these days, it is postponed a second day.

EXAMPLE	YOURS
Our Molad for year: <b>5766 2005-06</b>	Our Molad for year:

From Step 4D or previous rule: <b>2d 16h 876p</b> Our Molad occurs on: <b>Monday (2)d</b> So it <b>is not</b> a Lo A Du Rosh Tishri 1 is Tentative Molad: <b>2d 16h 876p</b>	From Step 4D or previous rule: Our Molad occurs on: So it a Lo A Du Rosh Tishri 1 is Tentative Molad:
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**C.**  
**RULE 3: GATARAD**

When the Molad of Tishri of a common year falls on a Tuesday at or after 9 hours 204 parts, the declaration of Tishri 1 is advanced to Wednesday. The application of Rule 2, Lo A Du Rosh advances the declaration one more day to Thursday.

Note also that this rule is not combined with Rule 1 Molad Zakein. If Molad Zakein applies to the current year, Gatarad is unnecessary. Gatarad applies only to molads between 9h 204p and 17h 1079p

- Leap years occur in years 3, 6, 8, 11, 14, 17 and 19 of a 19-year cycle
- To determine the year of the 19-year time cycle, divide the Hebrew year number by 19. See Step II.

EXAMPLE	YOURS
Our Molad for year: <b>5766 2005-06</b> From Step 4D or previous rule: <b>2d 16h 876p</b> Our Hebrew year is: <b>5766</b> Divided by 19 Years in cycle = <b>303 Remainder 9</b> So in the 19-year cycle it is year <b>9</b> Is it a common year? <b>Yes</b> Our Molad occurs on the day: <b>Monday (2)d</b> Does Gatarad apply? <b>No</b> Our Molad occurs at hours and parts: <b>16h 876p</b> Does Gatarad apply? <b>Yes</b> Does Rule 1 Lo A Du Rosh apply? <b>No</b> If there are any No answers, it is not a Gatarad. Is it a Gatarad? <b>No</b> Tishri 1 is Tentative Molad: <b>2d 16h 876p</b>	Our Molad for year: From Step 4D or previous rule`: Our Hebrew year is: Divided by 19 Years in cycle = So in the 19-year cycle it is year Is it a common year? Our Molad occurs on the day: Does Gatarad apply? Our Molad occurs at hours and parts: Does Gatarad apply? Does Rule 1 Lo A Du Rosh apply? If there are any No answers, it is not a Gatarad. Is it a Gatarad? Tishri 1 is Tentative Molad:

**D.**  
**RULE 4: BETUTEKAPOT**

If the Molad of a common year following a leap year falls on a Monday between 15 hours 589 parts and 18<sup>th</sup> hour, Tishri 1 is postponed to Tuesday.

This rule is designed to prevent a year from having an invalid length. It prevents a leap-year from having 382 days (too few days) by postponing Tishri 1 of the non-leap year following the leap year.

The rule is applied only if the actual Molad occurs on Monday, not if it is postponed to Monday.

- Leap years occur in years 3, 6, 8, 11, 14, 17 and 19 of a 19-year cycle
- To determine the year of the 19-year time cycle, divide the year number by 19. See Step II.

EXAMPLE	YOURS
<p>Our Molad for year: <b>5766 2005-06</b>            From Step 4D or previous rule: <b>2d 16h 876p</b>            Our Hebrew year is: <b>5766</b>            Divided by 19 Years in cycle = <b>303 Remainder 9</b>            So in the 19-year cycle it is year <b>9</b>            Is this a common year that follows a leap year? <b>Yes</b>            Our Molad occurs on the day: <b>Monday (2)d</b>            Does Betutepapot apply? <b>Yes</b>            Our Molad occurs at hour: <b>16h</b>            Is this between the 15<sup>th</sup> hour 589p and 18<sup>th</sup> hour? <b>Yes</b>            If there are any No answers, it is not a Betutepapot.            Is it a Betutkafot? <b>Yes</b>            Tishri 1 is Tentative Molad: <b>3d 16h 876p</b></p>	<p>Our Molad for year:            From Step 4D or previous rule:            Our Hebrew year is:            Divided by 19 Years in cycle =            So in the 19-year cycle it is year            Is this a common year that follows a leap year?            Our Molad occurs on the day:            Does Betutepapot apply?            Our Molad occurs at hour:            Is this between the 15<sup>th</sup> hour 589p and 18<sup>th</sup> hour?            If there are any No answers, it is not a Betutepapot.            Is it a Betutkafot?            Tishri 1 is Tentative Molad:</p>
<p>Final Results of Postponement Rules:  <b>3d 16h 876p</b>  <b>Rule 4 Applies</b></p>	<p>Final Results of Postponement Rules:</p>

## STEP VI

### A.

#### ADD ELAPSED DAYS FROM STEP IV B TO POSTPONEMENT RULE DAYS TO FIND CORRECTED ELAPSED DAYS

EXAMPLE	YOURS
<p>To determine the Gregorian date for Tishri 1 for the year: <b>5766 2005-06</b>            1.. Take the elapsed days calculated in Step IV B, <b>2,569 days</b>             2. Add any additional days triggered by the postponement rules in Step V, <b>(1)d</b>             3. Add this number of days to the date of Tishri 1 for your known Molad from Step I # 5 to find the date of Tishri 1 for the ending year <b>2005-06</b>.  <b>9/21/1998 + 2,570 elapsed days</b></p>	<p>To determine the Gregorian date for Tishri 1 for the year:            1. Take the elapsed days calculated in Step IV B,             2. Add any additional days triggered by the postponement rules in Step V,             3. Add this number of days to the date of Tishri 1 for your known Molad. from Step I # 5 to find the date of Tishri 1 for the ending year.</p>

### B.

#### FROM STARTING DATE IN STEP I COUNT THE ELAPSED DAYS FROM STEP VI A TO FIND END DATE OF TISHRI 1.

Utilize the Gregorian calendar generator at <http://www.myfreecalendarmaker.com/> to count the number of days in each year.

In Step 1 make sure 'yearly' is selected.

In Step 2 change only the year to the year you want.

In Step 3 click the 'Get my calendar' button.

To save you from excessive counting use the following rules:

- For the first year, start counting from the day after Tishri 1 (Step I # 5) to the end of the year.
- October, November and December have 92 days altogether.
- For in-between years look at February. If February has 28 days, the year is regular and has 365 days. If February has 29 days, then the year is a leap year and has 366 days.
- For the last year, look again at February. if February has 28 days, the days from January 1 - August 31 will be 243 days. f February has 29 days, the days from January 1 – August 31 will be 244 days.

EXAMPLE			YOURS		
Gregorian Year	What to Calculate	Total days	Gregorian Year	What to Calculate	Total days
<b>9/21/1998</b>	Days from Tishri 1 (Step 1 # 5) to end of year	<b>101</b>		Days from Tishri 1 (Step 1 # 5) to end of year	
<b>1999</b>	Days in year	<b>365</b>		Days in year	
<b>2000</b>	Days in year	<b>366</b>		Days in year	
<b>2001</b>	Days in year	<b>365</b>		Days in year	
<b>2002</b>	Days in year	<b>365</b>		Days in year	
<b>2003</b>	Days in year	<b>365</b>		Days in year	
<b>2004</b>	Days in year	<b>366</b>		Days in year	
	Total	<b>2293</b>		Total	
	Subtract from elapsed days (Step VI A # 3)	<b>2,570</b>		Subtract from elapsed days (Step VI A # 3)	
<b>2005</b>	Days from beginning of year (Step 1 # 7) to Tishri 1	<b>277</b>		Days from beginning of year (Step 1 # 7) to Tishri 1	
Date of Tishri 1 for <b>2005-06</b> <b>Tuesday, October 4, 2005 AD</b>			Date of Tishri 1 for		

### C.

#### CONFIRM RESULTS WITH HEBREW CALENDAR CALCULATOR

<http://www.cbcg.org/Calendar/index.html>

In the online calendar calculator:

Enter the year. Click 'Get Calendar'. Click 'Trumpets Declaration' Copy the information

EXAMPLE	YOURS
Year: <b>2005-06</b> Tentative Molad occurred: <b>Monday October 3 16h 876p</b> <b>Rule 4 applies</b> so Final Molad is: <b>Tuesday, Oct 4, 2005 AD</b> Begins civil year <b>5766</b> Trumpets to Trumpets <b>2005 – 2006 AD</b> Year <b>9</b> of the cycle	Year: Tentative Molad occurred :  so Final Molad is:  Begins civil year Trumpets to Trumpets: Year of the cycle



## STEP VII

### FIND THE LENGTH OF THE YEAR

Now that we have found Tishri 1 for the year we wish to calculate, we must find the length of the year if we wish to construct a calendar. The following four steps will give us the length of the year.

#### A. ADD SHE'ERITH FROM TABLE A TO THE MOLAD TISHRI OF THE YEAR FROM STEP IV D WHERE THE POSTPONEMENTS WERE NOT YET INCLUDED.

- Adding the She'erith to the Molad of one month, gives us the Molad of the next month.
- Adding the She'erith to the Molad of Tishri of a year gives us the Molad of Tishri of the next year. etc

TABLE A

She'erith of one month	1d 12h 793p
She'erith of common year	4d 8h 876p
She'erith of leap year	5d 21h 589p
She'erith of moon cycle of 19 years	2d 16h 595p

EXAMPLE		YOURS	
<b>2d 16h 876p</b>	Molad Tishri of yr <b>5766 2005-06</b> From Step IV D		Molad Tishri of yr From Step IV D
	Year <b>5766</b> Is year <b>9</b> of a 19 year cycle It is a <b>common year</b> Add She'erith of <b>common year</b> =		Year Is year of a 19 year cycle It is a Add She'erith of
<b>+ 4d 8h 876p</b>	Tentative Molad of year		Tentative Molad of year
<b>6d 24h 1,752p</b>	<b>5767 2006-07</b>		

#### B. ROUND THE SMALLER UNITS INTO THE LARGER UNITS TO FIND THE AMOUNT OF TIME BETWEEN THE STARTING AND ENDING MOLADS

EXAMPLE		YOURS	
Result from Step VII A: <b>6d 24h 1,752p</b>		Result from Step VII A:	
<b>1,752</b>	parts divided by 1,080 parts per hour =		parts divided by 1,080 parts per hour =
<b>1</b>	hours with remainder		hours with remainder
<b>672</b>	parts		parts
<b>24</b>	hours plus		hours plus
<b>1</b>	rounded hour =		rounded hour =
<b>25</b>	hours divided by 24 hours per day =		hours divided by 24 hours per day =
<b>1</b>	days with remainder		days with remainder
<b>1</b>	hours		hours
<b>6</b>	days plus		days plus
<b>1</b>	rounded days =		rounded days =
<b>7</b>	days divided by 7 days per week =		days divided by 7 days per week =
<b>1</b>	week with remainder		week with remainder
<b>0</b>	days		days

We now know the amount of time between the Starting Molad, Year <b>5766 2005-06</b> and Ending Molad Year <b>5767 2006-07</b> <b>0d 1h 672p</b>	We now know the amount of time between the Starting Molad, Year and Ending Molad, Year
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**C.**  
**APPLY THE POSTPONEMENTS TO THE ENDING MOLAD TISHRI FROM STEP VII B**

**RULE 1: MOLAD ZAKEIN**

When the Molad of Tishri occurs at or after noon (18 hours 0 parts) the declaration of Tishri 1 is advanced to the next day.

EXAMPLE	YOURS
Our Molad for year: <b>5767 2006-07</b> From Step VII B: <b>0d 1h 672p</b> Our Molad occurs at <b>1h</b> . So it <b>is not</b> a Molad Zakein Tishri 1 is Tentative Molad: <b>0d 1h 672p</b>	Our Molad for year: From Step VII B: Our Molad occurs at: So it a Molad Zakein Tishri 1 is Tentative Molad:

**RULE 2: LO A DU ROSH**

If the Molad of Tishri occurs on a Sunday, Wednesday, or Friday, the declaration of Tishri 1 is postponed a day. If Molad Zakein places Tishri 1 on one of these days, it is postponed a second day.

EXAMPLE	YOURS
Our Molad for Year <b>5767 2006-07</b> From Step VII B or previous rule: <b>0d 1h 672p</b> Our Molad occurs on: <b>Saturday (0)d</b> So it <b>is not</b> a Lo A Du Rosh Tishri 1 is Tentative Molad: <b>0d 1h 672p</b>	Our Molad for Year: From Step VII B or previous rule: Our Molad occurs on: So it a Lo A Du Rosh Tishri 1 is Tentative Molad:

**RULE 3: GATARAD**

When the Molad of Tishri of a common year falls on a Tuesday at or after 9 hours 204 parts, the declaration of Tishri 1 is advanced to Wednesday. The application of Rule 2, Lo A Du Rosh advances the declaration one more day to Thursday.

Note also that this rule is not combined with Rule 1 Molad Zakein. If Molad Zakein applies to the current year, Gatarad is unnecessary. Gatarad applies only to molads between 9h 204p and 17h 1079p

- Leap years occur in years 3, 6, 8, 11, 14, 17 and 19 of a 19-year cycle
- To determine the year of the 19-year time cycle, divide the Hebrew year number by 19. See Step II.

EXAMPLE	YOURS
Our Molad for year: <b>5767 2006-07</b> From Step VII B or previous rule: <b>0d 1h 672p</b>	Our Molad for year: From Step VII B or previous rule:

<p>Our Hebrew year is: <b>5767</b>  Divided by 19 Years in cycle = <b>303 Remainder 10</b>  So in the 19-year cycle it is year <b>10</b>  Is it a common year? <b>Yes</b>  Our Molad occurs on the day: <b>Saturday (0)d</b>  Does Gatarad apply? <b>No</b>  Our Molad occurs at hours and parts: <b>1h 672p</b>  Does Gatarad apply? <b>No</b>  Does Rule 1 Lo A Du Rosh apply? <b>No</b>  If there are any No answers, it is not a Gatarad.  Is it a Gatarad? <b>No</b>  Tishri 1 is Tentative Molad: <b>0d 1h 672p</b></p>	<p>Our Hebrew year is:  Divided by 19 Years in cycle =  So in the 19-year cycle it is year  Is it a common year?  Our Molad occurs on the day:  Does Gatarad apply?  Our Molad occurs at hours and parts:  Does Gatarad apply?  Does Rule 1 Lo A Du Rosh apply?  If there are any No answers, it is not a Gatarad.  Is it a Gatarad?  Tishri 1 is Tentative Molad:</p>
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**RULE 4: BETUTEKAPOT**

If the Molad of a common year following a leap year falls on a Monday between 15 hours 589 parts and 18<sup>th</sup> hour, Tishri 1 is postponed to Tuesday.

This rule is designed to prevent a year from having an invalid length. It prevents a leap-year from having 382 days (too few days) by postponing Tishri 1 of the non-leap year following the leap year.

The rule is applied only if the actual Molad occurs on Monday, not if it is postponed to Monday.

- Leap years occur in years 3, 6, 8, 11, 14, 17 and 19 of a 19-year cycle
- To determine the year of the 19-year time cycle, divide the year number by 19. See Step II.

EXAMPLE	YOURS
<p>Our Molad for year: <b>5767 2006-07</b>  From Step VII B or previous rule: <b>0d 1h 672p</b>  Our Hebrew year is: <b>5767</b>  Divided by 19 Years in cycle = <b>303 Remainder 10</b>  So in the 19-year cycle it is year <b>10</b>  Is this a common year that follows a leap year? <b>No</b>  Our Molad occurs on the day: <b>Saturday (0)d</b>  Does Betutekapot apply? <b>No</b>  Our Molad occurs at hour: <b>1h</b>  Is this between the 15<sup>th</sup> hour 589p and 18<sup>th</sup> hour? <b>No</b>  If there are any No answers, it is not a Betutekapot.  Is it a Betutkafot? <b>No</b>  Tishri 1 is Tentative Molad: <b>0d 1h 672p</b></p>	<p>Our Molad for year:  From Step VII B or previous rule:  Our Hebrew year is:  Divided by 19 Years in cycle =  So in the 19-year cycle it is year  Is this a common year that follows a leap year?  Our Molad occurs on the day:  Does Betutekapot apply?  Our Molad occurs at hour:  Is this between the 15<sup>th</sup> hour 589p and 18<sup>th</sup> hour?  If there are any No answers, it is not a Betutekapot.  Is it a Betutkafot?  Tishri 1 is Tentative Molad:</p>
<p>Final Results of Postponements  <b>0d 1h 672p</b>  <b>No Rules Apply</b></p>	<p>Final Results of Postponements</p>

**D.**  
**COUNT THE NUMBER OF DAYS BETWEEN THE TWO WEEKDAYS OF THE STARTING MOLAD (INCLUDING POSTPONEMENTS) AND ENDING MOLAD (INCLUDING POSTPONEMENTS). THEN REFER TO TABLE B TO FIND NUMBER OF DAYS IN THE YEAR**

EXAMPLE	YOURS
<p>Between Tishri 1 in <b>2005-06 AD</b>  From Step V D <b>3d 16h 876p</b>  on <b>Tuesday (3)d</b>  and Tishri 1 in <b>2006-07 AD</b>  From Step VII C Rule 4: <b>0d 1h 672p</b>  on <b>Saturday (0)d</b>  there are <b>4 days</b>  in excess of full weeks.  Hence the <b>common year 2005-06 AD</b>  According to Table B has <b>350 + 4 = 354 days</b>.  It is of Type <b>C</b>  Tishri 1 in <b>2005-06 AD on Tuesday</b>  <b>Regular 354 days</b></p>	<p>Between Tishri 1 in  From Step V D  on  and Tishri 1 in  From Step VII C Rule 4:  on  there are  in excess of full weeks.  Hence the  According to Table B has  It is of Type  Tishri 1 in</p>

TABLE B

The Seven Types of the Common years • Begin with 350 days and add the days between the two Rosh Hashanas		
TYPES	The First Day of Rosh Hashana Occurs On	The Length of the Year
A	Monday	Defective 353 Days
B	Sabbath	Defective 353 Days
C	Tuesday	Regular 354 Days
D	Thursday	Regular 354 Days
E	Monday	Excessive 355 Days
F	Thursday	Excessive 355 Days
G	Sabbath	Excessive 355 Days
The Seven Types of the Leap Years • Begin with 378 days and add days between the two Rosh Hashanas.		
H	Monday	Defective 383 Days
I	Thursday	Defective 383 Days
J	Sabbath	Defective 383 Days
K	Tuesday	Regular 384 Days
L	Monday	Excessive 385 Days
M	Thursday	Excessive 385 Days
N	Sabbath	Excessive 385 Days

**STEP VIII**

**COUNT THE ELAPSED DAYS FROM VII D AS YOU DID FROM VI B TO DETERMINE THE ENDING DATE OF TISHRI 1 IN THE YEAR FOLLOWING THE ONE YOU ARE CALCULATING.**

This date will begin the final month of Tishri at the end of this workbook.

Utilize the Gregorian calendar generator at <http://www.myfreecalendarmaker.com/> to count the days.

In the calendar generator:

In Step 1 make sure 'yearly' is selected.  
 In Step 2 change only the year to the year you want.  
 In Step 3 click the 'Get my calendar' button.

To save you from excessive counting use the following rules:

- For the first year, start counting from the day after Tishri 1 (Step I # 5) to the end of the year.
- October, November and December have 92 days altogether.
- For the last year, look at February. If February has 28 days, the days from January 1 - August 31 will be 243 days. If February has 29 days, the days from January 1 – August 31 will be 244 days.

EXAMPLE			YOURS		
Gregorian Year	What to Calculate	Total days	Gregorian Year	What to Calculate	Total days
From VI B <b>10/04/2005</b>	Days from Tishri 1 to end of year	<b>88</b>	From VI B	Days from Tishri 1 to end of year	
	Total	<b>88</b>		Total	
	Subtract from total days in year From VII D	<b>354</b>		Subtract from total days in year From VII D	
<b>2006</b>	Days from beginning of year to Tishri 1	<b>266</b>		Days from beginning of year to Tishri 1	
Date of Tishri 1 for <b>2006-07</b> <b>Saturday, September 23, 2006</b>			Date of Tishri 1 for		

#### STEP IV.

#### ORDER THE MONTHS IN THE CALENDAR ACCORDING TO THE NUMBER OF DAYS FOUND IN STEP VII C

The months are ordered according to TABLE C from the number of days found in step VII D.

EXAMPLE	YOURS
According to Step VII D and Table B, <b>2005-06 AD</b> is a/an <b>Regular 354 day year</b> . Thus, according to Table C the months are arranged according to <b>A</b> .	According to Step VII D and Table B, is a/an Thus, according to Table C the months are arranged according to

TABLE C

Types of Years, Number of Days and Construction of Months			
A	Regular+ Common	354 days	12 months alternately having 30 and 29 days In "Regular" years (354 or 384 days), Heshvan has 29 and Kislev 30 days.
B	Defective Common	353 days	12 months alternately having 30 and 29 days except Kislev with 29 instead of 30 days In "Deficient" years (353 or 383 days), Heshvan and Kislev both have 29 days.
C	Excessive Common	355 days	12 months alternately having 30 and 29 days except Heshvan with 30 instead of 29 days In "Full" years (355 or 385 days), Heshvan and Kislev both have 30 days.
D	Regular Leap	384 days	12 months alternately having 30 and 29 days, with an additional month of 30 days, Adar I

			In "Regular" years (354 or 384 days), Heshvan has 29 and Kislev 30 days.
E	Defective Leap	383 days	12 months alternately having 30 and 29 days except Kislev with 29 days instead of 30, and one additional month of 30 days, Adar I In "Deficient" years (353 or 383 days), Heshvan and Kislev both have 29 days.
F	Excessive Leap	385 days	12 months alternately having 30 and 29 days, except Heshvan with 30 days instead of 29, and one additional month, Adar I with 30 days. In "Full" years (355 or 385 days), Heshvan and Kislev both have 30 days.

**STEP X  
CONSTRUCT THE RESULTING CALENDAR**

**RESULTING CALENDAR FOR YEAR 5766 2005-06 AD**

According to Step VI B Tishri 1 begins on **Tuesday, October 4, 2005 AD**

2005 AD Tishri Year 5766							2005 AD October/November						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
		1	2	3	4	5			4	5	6	7	8
6	7	8	9	10	11	12	9	10	11	12	13	14	15
13	14	15	16	17	18	19	16	17	18	19	20	21	22
20	21	22	23	24	25	26	23	24	25	26	27	28	29
27	28	29	30				30	31	1	2			
Tishri has 30 days Day of Trumpets: Tuesday, Tishri 1 Day of Atonement: Thursday, Tishri 10 Feast of Tabernacles: Tuesday, Tishri 15 Last Great Day: Tuesday, Tishri 22							October has 31 days Day of Trumpets: Tuesday, October 4 Day of Atonement: Thursday, October 13 Feast of Tabernacles: Tuesday, October 18 Last Great Day: Tuesday, October 25						

2005 AD Heshvan Year 5766							2005 AD November/December						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
				1	2	3					3	4	5
4	5	6	7	8	9	10	6	7	8	9	10	11	12
11	12	13	14	15	16	17	13	14	15	16	17	18	19
18	19	20	21	22	23	24	20	21	22	23	24	25	26
25	26	27	28	29			27	28	29	30	1		
Heshvan has <b>29</b> days in this year							November has 30 days						

2005 AD Kislev Year 5766							2005 AD December						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
					1	2						2	3
3	4	5	6	7	8	9	4	5	6	7	8	9	10
10	11	12	13	14	15	16	11	12	13	14	15	16	17
17	18	19	20	21	22	23	18	19	20	21	22	23	24
24	25	26	27	28	29	30	25	26	27	28	29	30	31

Kislev has <b>30</b> days in this year													
2006 AD Tebeth Year 5766							2006 AD January						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
1	2	3	4	5	6	7	1	2	3	4	5	6	7
8	9	10	11	12	13	14	8	9	10	11	12	13	14
15	16	17	18	19	20	21	15	16	17	18	19	20	21
22	23	24	25	26	27	28	22	23	24	25	26	27	28
29							29						
Tebeth has 29 days							December has 31 days						

2006 AD Shebat Year 5766							2006 AD January/February						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
	1	2	3	4	5	6		30	31	1	2	3	4
7	8	9	10	11	12	13	5	6	7	8	9	10	11
14	15	16	17	18	19	20	12	13	14	15	16	17	18
21	22	23	24	25	26	27	19	20	21	22	23	24	25
28	29	30					26	27	28				
Shebat has 30 days							January has 31 days February has <b>28</b> days in this year						

- You can look at the online calendar calculator <http://www.myfreecalendarmaker.com/> to see whether February has 28 or 29 days . You can also determine whether a year is a leap year if it is divisible by 4. For example: 2006 AD is not divisible by 4, so an extra day is not added to February. It has 28 days

2006 AD Adar II Year 5766							2006 AD March						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
			1	2	3	4				1	2	3	4
5	6	7	8	9	10	11	5	6	7	8	9	10	11
12	13	14	15	16	17	18	12	13	14	15	16	17	18
19	20	21	22	23	24	25	19	20	21	22	23	24	25
26	27	28	29				26	27	28	29			
Adar II has 29 days													

- Adar I has 30 days It is added in leap years There **IS NO** Adar I this year.

Adar I Year													
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
Adar I has 30 days added to Leap Years													

2006 AD Nisan Year 5766							2006 AD March/April						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
				1	2	3					30	31	1
4	5	6	7	8	9	10	2	3	4	5	6	7	8
11	12	13	14	15	16	17	9	10	11	12	13	14	15
18	19	20	21	22	23	24	16	17	18	19	20	21	22
25	26	27	28	29	30		23	24	25	26	27	28	
Nisan has 30 days. Passover: Wednesday, Nisan 14 1 <sup>st</sup> Day Unleavened Bread: Thursday, Nisan 15 7 <sup>th</sup> Day Unleavened Bread: Wednesday, Nisan 21							March has 31 days. Passover: Wednesday, April 12 1 <sup>st</sup> Day Unleavened Bread: Thursday, April 13 7 <sup>th</sup> Day Unleavened Bread: Wednesday, April 19						

2006 AD Iyar Year 5766							2006 AD April/May						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
						1							29
2	3	4	5	6	7	8	30	1	2	3	4	5	6
9	10	11	12	13	14	15	7	8	9	10	11	12	13
16	17	18	19	20	21	22	14	15	16	17	18	19	20
23	24	25	26	27	28	29	21	22	23	24	25	26	27
Iyar has 29 days							April has 30 days						

2006 AD Sivan Year 5766							2006 AD May/June						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
1	2	3	4	5	6	7	28	29	30	31	1	2	3
8	9	10	11	12	13	14	4	5	6	7	8	9	10
15	16	17	18	19	20	21	11	12	13	14	15	16	17
22	23	24	25	26	27	28	18	19	20	21	22	23	24
29	30						25	26					
Sivan has 30 days Pentecost is counted 50 days from the Sunday during the Feast of Unleavened Bread Pentecost: Sunday, Sivan 8							May has 31 days Pentecost is counted 50 days from the Sunday during the Feast of Unleavened Bread Pentecost: Sunday, June 4						

2006 AD Tammuz Year 5766							2006 AD June/July						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
		1	2	3	4	5			27	28	29	30	1
6	7	8	9	10	11	12	2	3	4	5	6	7	8
13	14	15	16	17	18	19	9	10	11	12	13	14	15
20	21	22	23	24	25	26	16	17	18	19	20	21	22
27	28	29					23	24	25				
Tammuz has 29 days							June has 30 days						



2006 AD Ab Year 5766							2006 AD July/August						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
			1	2	3	4				26	27	28	29
5	6	7	8	9	10	11	30	31	1	2	3	4	5
12	13	14	15	16	17	18	6	7	8	9	10	11	12
19	20	21	22	23	24	25	13	14	15	16	17	18	19
26	27	28	29	30			20	21	22	23	24		
Ab has 30 days							July has 31 days						

2006 AD Elul Year 5766							2006 AD August/September						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
					1	2						25	26
3	4	5	6	7	8	9	27	28	29	30	31	1	2
10	11	12	13	14	15	16	3	4	5	6	7	8	9
17	18	19	20	21	22	23	10	11	12	13	14	15	16
24	25	26	27	28	29		17	18	19	20	21	22	
Elul has 29 days							August has 31 days						

The month of Elul ends the Hebrew year **5766 2005-06 AD**  
Step 7 E told us that Tishri I for the new year, **5767 2006-07 AD**  
will be on **Saturday, September 23, 2006**

Thus, we see that our new calendar year matches up with the old and begins Tishri on the correct day.

- If you use the online calendar calculator again to verify the holy day dates for this year, keep in mind that the Hebrew year begins in the fall and ends the following fall. Therefore, type in the current year (example 2005 AD) to find the fall holy days and the next year (example: 2006 AD) to find the spring holy days.

**STEP X**  
**CONSTRUCT YOUR CALENDAR**

**RESULTING CALENDAR FOR YEAR:**

According to Step VI B Tishri 1 begins on

Tishri Year													
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat

Tishri has 30 days Day of Trumpets: Tishri 1 Day of Atonement: Tishri 10 Feast of Tabernacles: Tishri 15 Last Great Day: Tishri 22	Day of Trumpets: Day of Atonement: Feast of Tabernacles: Last Great Day:
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Heshvan Year													
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
Heshvan has							days in this year						

Kislev Year													
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
Kislev has							days in this year						

Tebeth Year													
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
Tebeth has 29 days													

• You can look at the online calendar calculator <http://www.myfreecalendarmaker.com/> to see whether February has 28 or 29 days . You can also determine whether a year is a leap year if it is divisible by 4. For example: 2006 AD is not divisible by 4, so an extra day is not added to February. It has 28 days

Shebat Year													
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat

Shebat has 30 days													

Adar II Year													
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
Adar II has 29 days							February has      days this year						

• Adar I has 30 days It is added in leap years There Adar I this year.

Adar I Year													
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
Adar I has 30 days added in Leap Years													

Nisan Year													
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
Nisan has 30 days. Passover: Nisan 14 1 <sup>st</sup> Day Unleavened Bread: Nisan 15 7 <sup>th</sup> Day Unleavened Bread: Nisan 21							March has 31 days Passover: 1 <sup>st</sup> Day Unleavened Bread: 7 <sup>th</sup> Day Unleavened Bread:						

Iyar Year													
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat

Iyar has 29 days													

Sivan Year													
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
Sivan has 30 days Pentecost is counted 50 days from the Sunday during the Feast of Unleavened Bread Pentecost: Sunday, Sivan							May has 31 days Pentecost is counted 50 days from the Sunday during the Feast of Unleavened Bread Pentecost: Sunday,						

Tammuz Year													
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
Tammuz has 29 days													

Ab Year													
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
Ab has 30 days													

Elul Year													
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat

Elul has 29 days							August has 31 days						

The month of Elul ends the Hebrew year

Step V!!! told us that Tishri I for the new year:

will be on

Thus, we see that our new calendar year matches up with the old and begins Tishri on the correct day

- If you use the online calendar calculator again to verify the holy day dates for this year, keep in mind that the Hebrew year begins in the fall and ends the following fall. Therefore, type in the current year (example 2005 AD) to find the fall holy days and the next year (example: 2006 AD) to find the spring holy days.

Bibliography: Example is from <http://www.jewfaq.org/calendr2.htm#Essentials>

Tables are from *The Comprehensive Hebrew Calendar* by Arthur Spier