

STAR GAZERS
SG 1647 - 5M
NOVEMBER 21-27, 2016

"POLYGON PARTY"

DEAN: WELCOME TO STAR GAZERS! I'M DEAN REGAS, ASTRONOMER FROM THE CINCINNATI OBSERVATORY.

JAMES: AND I'M JAMES ALBURY, DIRECTOR OF THE KIKA SILVA PLA PLANETARIUM IN GAINESVILLE, FLORIDA. WELL DEAN, WEVE FINALLY REACHED THAT TIME OF YEAR AGAIN.

DEAN: THANKSGIVING?

JAMES: YES, BUT MORE IMPORTANTLY, WE'RE NEARING THE END OF AUTUMN AND IT'S AT THIS TIME OF YEAR THAT WE CAN SEE A MULTITUDE OF CELESTIAL POLYGONS, ALL IN THE SKY AT THE SAME TIME!

DEAN: WE HAVE A TRIANGLE, A SQUARE, A PENTAGON AND A HEXAGON. SO, GET READY, WHILE WE CONNECT THE DOTS! LETS SHOW YOU!

----(STOP & DROP)

DEAN: OK, WE HAVE OUR SKIES SET UP FOR JUST AFTER SUNSET, ANY NIGHT THIS WEEK, AND WE'LL START OUR POLYGON SCAVENGER HUNT FACING WEST AND WORK OUR WAY EASTWARD.

JAMES: AND, THE NUMBER OF SIDES THAT EACH OF OUR POLYGONS DISPLAYS INCREASES BY ONE AS WE TRAVEL EASTWARD. SO, LET'S START FACING WEST AND THE FIRST POLYGON WE SEE HAS THREE SIDES AND THREE ANGLES. IT'S NONE OTHER THAN THE SUMMER TRIANGLE.

DEAN: THIS PATTERN OF BRIGHT STARS IS WHAT WE CALL AN ASTERISM. IT'S A GEOMETRIC SHAPE MADE BY USING BRIGHT STARS FROM MULTIPLE CONSTELLATIONS. THE STARS OF THE SUMMER TRIANGLE ARE VEGA, THE BRIGHTEST STAR IN LYRA THE HARP, ALTAIR, THE BRIGHTEST STAR IN AQUILA THE EAGLE AND DENEUB, THE BRIGHTEST STAR IN CYGNUS THE SWAN.

JAMES: MOVING UPWARD TO ALMOST OVERHEAD IS OUR NEXT POLYGON AND IT HAS FOUR SIDES AND FOUR ANGLES. THE STARS THAT MAKE THIS POLYGON ARE ALL IN THE SAME CONSTELLATION. WE CALL IT THE GREAT SQUARE OF PEGASUS AND IT REPRESENTS THE BODY OF THE FLYING HORSE BELONGING TO PERSEUS THE HERO. LET'S DRAW IT OUT. WE'LL START AT MARKAB, WHICH MARKS THE BASE OF THE NECK OF PEGASUS, THEN WE'LL MOVE NORTHWARD TO SHEAT, WHICH MARKS THE POINT WHERE THE LEGS ATTACH TO THE BODY.

DEAN: WE'LL THEN DRAW THE HORSE'S STOMACH BY CONTINUING A LINE EASTWARD TO THE STAR ALPHERATZ WHICH IS A STAR THAT PEGASUS SHARES WITH ANDROMEDA, THE PRINCESS. THEN, IF WE MOVE SOUTHWARD TO FINISH OFF THE SQUARE, WE ARRIVE AT THE STAR ALGENIB, WHICH COMPLETES THE REAR AND BACK OF THE HORSE.

----(STOP AND FLY)

JAMES: ALRIGHT, SO WE'VE SEEN A TRIANGLE...

DEAN: WITH THREE SIDES...

JAMES: AND A SQUARE...

DEAN: WITH FOUR SIDES...

JAMES: SO, WE NOW NEED A FIVE SIDED POLYGON.

DEAN: A PENTAGON!

JAMES: EXACTLY! AND WE HAVE AN EXCELLENT CANDIDATE FOR THIS IF WE AIM OURSELVES TO THE NORTHEAST. THE BRIGHTEST OF THE STARS IN THIS PENTAGON ALSO HAPPENS TO BE THE CLOSEST OF THEM, AT ONLY 42 LIGHT YEARS AWAY. CAPELLA MARKS THE APEX OF THE PENTAGON SHAPED CONSTELLATION CALLED AURIGA THE CHARIOTEER.

DEAN: THE OTHER STARS THAT MARK THIS CONSTELLATION, TRAVELING IN A COUNTER-CLOCKWISE DIRECTION ARE, MENKALINAN WHICH IS 48 TIMES AS BRIGHT AS OUR SUN, IS 82 LIGHT YEARS AWAY AND MARKS THE SHOULDER OF THE CHARIOTEER. MOVING SOUTHWARD WE HAVE THE STAR MAHASIM, WHICH MARKS THE WRIST OF AURIGA AND IS A BINARY STAR SYSTEM OVER 166 LIGHT YEARS AWAY FROM US.

JAMES: MOVING FURTHER SOUTHWARD WE RUN INTO MY FAVORITE STAR IN AURIGA, ELNATH. THIS STAR IS APPROXIMATELY 131 LIGHT YEARS FROM EARTH AND IS A STAR THAT AURIGA SHARES WITH TAURUS THE BULL, MARKING THE END OF ONE OF THE BULL'S HORNS.

DEAN: LASTLY, WE MOVE WESTWARD TO THE STAR KABDHILINAN WHICH IS ROUGHLY 500 LIGHT YEARS AWAY FROM US AND IS APPROXIMATELY 127 TIMES THE WIDTH OF OUR SUN.

----(STOP & FLY)

JAMES: SO, WE HAVE A TRIANGLE, A SQUARE AND A PENTAGON. WE NEED A SIX SIDED FIGURE.

DEAN: WELL YOU'RE IN LUCK, BECAUSE IF YOU GO OUTSIDE JUST BEFORE 10:00 PM, THE LAST STARS OF THE WINTER HEXAGON WILL BE RISING IN THE EAST, JUST BEFORE THE SUMMER TRIANGLE SETS IN THE WEST. IF YOU HAVE A CLEAR HORIZON TO THE EAST AND WEST, YOU CAN SEE THEM BOTH IN THE SKY AT THE SAME TIME. LET'S START WITH CAPELLA AND MOVE DOWNWARD TOWARD THE HORIZON.

JAMES: HERE YOU HAVE CASTOR AND POLLUX, THE HEADS OF THE GEMINI TWINS. CLOSER STILL TO THE HORIZON YOU HAVE PROCYON IN CANIS MINOR AND FURTHER SOUTH YOU HAVE SIRIUS IN CANIS MAJOR.

DEAN: MOVING UPWARD YOU HAVE RIGEL, THE FOOT OF ORION AND THEN UP TO ORION'S LEFT YOU HAVE ALDEBARAN, MARKING THE EYE OF TAURUS.

JAMES: THEN FINISHING OFF, WE HEAD BACK TO CAPELLA TO COMPLETE THE HEXAGON. FOUR SEPARATE SHAPES, MADE BY 18 STARS, IN 10 CONSTELLATIONS!

DEAN: WOW! SO GET OUTSIDE AND MAKE SOME PRETTY POLYGONS AS YOU...

BOTH: KEEP LOOKING UP!

----STOP