

MathMatters Competition
Beehive Science and Technology Academy
November 12, 2022



6th Grade
TEST BOOKLET

Instructions:

- 1) Do not open your testing booklet until instructed to do so.
- 2) You will have 40 minutes to complete 30 questions. Each question is multiple choice with answer selections a, b, c, d.
- 3) All answers must be indicated by filling in the circles on the **answer sheet**. Be sure to fill in each circle completely. No answers written in the test booklet will be counted.
- 4) Each question is worth 1 point, except for the last 5 questions which are worth 2 points. Remember that this is a competition, not a test. There is no failing or passing score.
- 5) Calculators are **not** allowed.



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<p>1) $2 \times 2022 = 6 \times ?$</p> <p>a) 674 b) 1011 c) 3033 d) 24264</p>	<p>5) $1 + 2 + 3 + 4 + 996 + 997 + 998 + 999 =$</p> <p>a) 3998 b) 3999 c) 4000 d) 4001</p>
<p>2) Paul Bunyan sold his 2 raccoons for \$222.22 each. John Henry gave him \$500 for them. How much change should Paul give John?</p> <p>a) \$277.78 b) \$277.88 c) \$55.56 d) \$55.66</p>	<p>6) The product of two different primes has <u>?</u> divisors?</p> <p>a) 3 b) 4 c) 5 d) 6</p>
<p>3) For every 7 soccer balls Elena bought for the gym, she bought 4 basketballs. If she bought 35 soccer balls, she bought a total of <u>?</u> balls.</p> <p>a) 20 b) 35 c) 45 d) 55</p>	<p>7) What is the sum of the tenths and hundredths digit in 12345.6789?</p> <p>a) 7 b) 11 c) 13 d) 15</p>
<p>4) $10 \times 20 \times 30 \times 40 = 24 \times ?$</p> <p>a) 10^3 b) 10^4 c) 10^5 d) 10^6</p>	<p>8) If 1 out of 6 lightbulbs is defective and there are 2022 lightbulbs, how many of them are not defective?</p> <p>a) 5 b) 337 c) 1685 d) 2021</p>

<p>9) The time twelve thousand and twelve hours after 7 A.M. is</p> <ul style="list-style-type: none"> a) 1 A.M. b) 1 P.M. c) 7 A.M. d) 7 P.M. 	<p>13) I donate a \$100 bill, 2 \$50 bills, 3 \$20 bills, 4 \$10 bills, and 5 \$5 bills. If 5 people divide my money equally, each person receives</p> <ul style="list-style-type: none"> a) \$37 b) \$65 c) \$70 d) \$75
<p>10) Daisy likes to help her father. She dusts every 3 days, sweeps every 4 days, and cooks dinner every 5 days. If she does all 3 chores on a Sunday, she next does all 3 chores on the same day on a</p> <ul style="list-style-type: none"> a) Wednesday b) Thursday c) Friday d) Saturday 	<p>14) Peter ran at 4 m/s. Paul started at the same spot 6 seconds later and chased Peter at 7 m/s. Paul needed to run <u>?</u> seconds to catch Peter.</p> <ul style="list-style-type: none"> a) 6 b) 7 c) 8 d) 14
<p>11) While eating pancakes, Adam ate $\frac{1}{4}$ of them, Jerry ate $\frac{7}{20}$ of them, Steve ate $\frac{3}{10}$, Dan ate the rest. Who ate the greatest number of pancakes?</p> <ul style="list-style-type: none"> a) Adam b) Jerry c) Steve d) Dan 	<p>15) The product of two different nonzero integers cannot be</p> <ul style="list-style-type: none"> a) Zero b) Prime c) Composite d) Even
<p>12) The greatest common factor is the smallest for which of the following pairs of numbers?</p> <ul style="list-style-type: none"> a) 4 & 18 b) 5 & 25 c) 6 & 33 d) 8 & 35 	<p>16) What is the largest factor of $2^2 \times 3^3 \times 5^5 \times 7^7 \times 11^{11}$ that is less than 100?</p> <ul style="list-style-type: none"> a) 66 b) 77 c) 88 d) 99

<p>17) The number of hours in 10 days = the number of minutes in <u>?</u> hours.</p> <ul style="list-style-type: none">a) 2b) 3c) 4d) 6	<p>21) The sum of 2022 integers is even. At most <u>?</u> of them can be odd.</p> <ul style="list-style-type: none">a) 2022b) 2021c) 1d) 0
<p>18) My average score on 8 math tests is 90. If my average score on the first 5 tests was 87, what was my average score on the last 3 tests?</p> <ul style="list-style-type: none">a) 96b) 95c) 94d) 93	<p>22) The measure of one angle in a triangle is $\frac{1}{3}$ of a second angle in the triangle and $\frac{1}{6}$ of the third one. The measure of the largest angle is</p> <ul style="list-style-type: none">a) 108°b) 72°c) 54°d) 18°
<p>19) The maximum number of intersection points of 4 different circles is</p> <ul style="list-style-type: none">a) 16b) 12c) 8d) 6	<p>23) When the square of the perimeter of a certain square is divided by the area of this square, the quotient is</p> <ul style="list-style-type: none">a) 2b) 4c) 8d) 16
<p>20) What percent of 20 is 50?</p> <ul style="list-style-type: none">a) 40b) 140c) 200d) 250	<p>24) Lex had 144 coins left after giving one-third of his coins to Clark and one-third of his remaining coins to Lois. How many coins did he give to Lois?</p> <ul style="list-style-type: none">a) 72b) 48c) 36d) 32

<p>25) The ones digit of the fourth power of an integer cannot be</p> <ul style="list-style-type: none"> a) 1 b) 3 c) 5 d) 6 	<p>28) If the sum of 9 consecutive odd integers is 1935, what is the sum of the next 9 consecutive odd integers?</p> <ul style="list-style-type: none"> a) 2015 b) 2017 c) 2097 d) 2099
<p>26) A person's initials are two letters in a specific order. If everyone has initials. What is the fewest number of people who must attend a party to be sure that three of the people will have the same initials?</p> <ul style="list-style-type: none"> a) 1353 b) 1352 c) 677 d) 676 	<p>29) $3^{336} \times 9^{336} \times 27^{336} =$</p> <ul style="list-style-type: none"> a) 3^{1008} b) 3^{1344} c) 3^{1680} d) 3^{2016}
<p>27) The cost of my algebra book is 200% of that of my geometry book. The cost of my geometry book is $\frac{4}{3}$ that of my calculus book. If my calculus book costs \$21, how much do all three books cost together?</p> <ul style="list-style-type: none"> a) \$28 b) \$56 c) \$84 d) \$105 	<p>30) Increasing the radius of a circle by 50% increases its area by <u>?</u> %.</p> <ul style="list-style-type: none"> a) 50 b) 100 c) 125 d) 150