

| Item | skills | outcomes |
|------|--|---|
| 1- | Number / Knowing Hint | <p>MAT.1.07.01 Compare quantities by using a ratio and a unit ratio and solve problems and applications</p> <p>TIMSS - Identify and find equivalent ratios; model a given situation by using a ratio; divide a quantity according to a given ratio.</p> <p>يحدد ويجد النسب المتكافئة. وتمثيل موقف معطى باستخدام النسبة، ويُقسّم كمية ما بناء على نسبة مُعطاة.</p> |

أكمل كل كسر (fraction) حتى تكون الكسور كلها متكافئة (equivalent).

$$\frac{24}{60} = \frac{6}{15} = \frac{2}{\quad} = \frac{\quad}{120} = \frac{16}{\quad}$$

Complete each fraction so that all the fractions are equivalent.

$$\frac{24}{60} = \frac{6}{15} = \frac{2}{\quad} = \frac{\quad}{120} = \frac{16}{\quad}$$

2)

| Grade | 9+10 | Skills | Mathematics Reasoning | | | | | | | | | | | | | | | | | |
|---|-----------|---|------------------------------------|-----|---|---|---|---|---|---|--|--|---|---|---|---|---|---|---|---|
| Difficulty level | Difficult | Question | جمال الأسس The Beauty of Powers | 1.5 | | | | | | | | | | | | | | | | |
| Refer to "The beauty of powers" below. | | بالرجوع إلى جمال الأسس أدناه. | | | | | | | | | | | | | | | | | | |
| <p>THE BEAUTY OF POWERS</p> <p>The first nine powers of the number 7 are listed below. Notice how fast they grow!</p> <p>The last digits of these numbers follow a rule or pattern. Study the pattern to answer the question.</p> <p>$7^1 = 7$</p> <p>$7^2 = 49$</p> <p>$7^3 = 343$</p> <p>$7^4 = 2401$</p> <p>$7^5 = 16807$</p> <p>$7^6 = 117649$</p> <p>$7^7 = 823543$</p> <p>$7^8 = 5764801$</p> <p>$7^9 = 40353607$</p> | | <p>جمال الأسس</p> <p>الأسس الـ 9 الأولى في الرقم 7 مذكورة أدناه. لاحظ السرعة التي تزداد بها الأرقام الأخيرة في هذه الأعداد تتبع نمط معين أو قاعدة معينة. أدرس هذا النمط بعناية ثم أجب عن السؤال.</p> <p>$7^1 = 7$</p> <p>$7^2 = 49$</p> <p>$7^3 = 343$</p> <p>$7^4 = 2401$</p> <p>$7^5 = 16807$</p> <p>$7^6 = 117649$</p> <p>$7^7 = 823543$</p> <p>$7^8 = 5764801$</p> <p>$7^9 = 40353607$</p> | | | | | | | | | | | | | | | | | | |
| What is the last digit of the number 7^{190} ? | | ما آخر رقم في العدد 7^{190} ؟ | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>3</td> <td>7</td> <td>9</td> </tr> </tbody> </table> | | A | B | C | D | 1 | 3 | 7 | 9 | <table border="1"> <thead> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>3</td> <td>7</td> <td>9</td> </tr> </tbody> </table> | | | A | B | C | D | 1 | 3 | 7 | 9 |
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| 1 | 3 | 7 | 9 | | | | | | | | | | | | | | | | | |
| A | B | C | D | | | | | | | | | | | | | | | | | |
| 1 | 3 | 7 | 9 | | | | | | | | | | | | | | | | | |
| Answer | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |

3)

| Grade | 9+10 | Skills | Evaluate & Interpret | |
|---|--------|----------|----------------------|---|
| Difficulty level | Medium | Question | الاختبارات العظمية | 3 |
| | | | SCIENCE TESTS | |
| <p>في مدرسة علياء، يعطي مدرس العلوم لها اختبارات تم تحديدها من 100. علياء لديها متوسط من 60 درجة في أول أربع اختبارات لها في العلوم. في الاختبار الخامس حصلت على 80 درجة. ما هو متوسط درجات علياء في العلوم بعد الاختبارات الخمسة جميعها؟</p> <p>80 (a) 70 (b) 64 (c) 74 (d)</p> | | | | |
| <p>In Aliaa's school, her science teacher gives tests that are marked out of 100. Alia has an average of 60 marks on her first four Science tests. On the fifth test she got 80 marks. What is the average of Aliaa's marks in Science after all five tests?</p> <p>a) 80 b) 70 c) 64 d) 74</p> | | | | |
| Answer | | | | |
| | | | | |

4)

| Content Domain | Main Topic | Cognitive Domain |
|----------------|------------------------|------------------|
| NUMBER | Fractions and Decimals | Knowing |

Which of these is the BEST estimate of $\frac{7.21 \times 3.86}{10.09}$?

A. $\frac{7 \times 3}{10}$

B. $\frac{7 \times 4}{10}$

C. $\frac{7 \times 3}{11}$

D. $\frac{7 \times 4}{11}$

5)

| Content Domain | Main Topic | Cognitive Domain |
|----------------|-----------------------------------|------------------|
| ALGEBRA | Equations/ Formulas and Functions | Knowing |

Use the formula $y = 100 - \frac{100}{1+t}$ to find the value of y when $t = 9$.

Answer: _____