الملحق (أ)

معالم فقرات الرياضيات في الكراسة الاختبارية الأولى مقدرة من استجابات العينة الأولى (1000) طالب.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **الفقرة** | **نوع** | **معلمة** | **معلمة** | **صعوبة** | **صعوبة** |
| **الفقرة** | **التمييز** | **التخمين** | **الخطوة الأولى** | **الخطوة الثانية** |
| M042302A | CR | 1.3836 | 0.0000 | 0.2902 | 0.0688 |
| M042302B | CR | 1.4094 | 0.0000 | 0.9308 | -0.1890 |
| M042302C | CR | 0.6971 | 0.0000 | 2.8294 | 0.4408 |
| M062286 | CR | 1.0972 | 0.0000 | 2.3599 | 1.2124 |
| M042081 | CR | 1.0199 | 0.0000 | 0.4430 | - |
| M042093 | CR | 2.0937 | 0.0000 | 1.1196 | - |
| M042159 | CR | 0.2095 | 0.0000 | -5.2880 | - |
| M042164 | CR | 2.1095 | 0.0000 | 0.3093 | - |
| M042167 | CR | 2.1077 | 0.0000 | 0.6901 | - |
| M062208 | CR | 1.1434 | 0.0000 | -0.4972 | - |
| M062111A | CR | 1.9310 | 0.0000 | 0.0147 | - |
| M062111B | CR | 2.4815 | 0.0000 | 0.6403 | - |
| M062237 | CR | 1.8934 | 0.0000 | 1.1757 | - |
| M062314 | CR | 1.2171 | 0.0000 | 1.4272 | - |
| M062183 | CR | 1.0033 | 0.0000 | 0.2169 | - |
| M042182 | MC | 4.7646 | 0.5281 | 0.6195 | - |
| M042049 | MC | 2.6193 | 0.5166 | 0.5766 | - |
| M042052 | MC | 6.5442 | 0.4392 | 0.4341 | - |
| M042076 | MC | 2.5527 | 0.3566 | 0.8810 | - |
| M042100 | MC | 2.8106 | 0.4707 | 0.4865 | - |
| M042202 | MC | 2.7475 | 0.3925 | 0.5464 | - |
| M042240 | MC | 3.5323 | 0.3313 | 0.3451 | - |
| M042271 | MC | 2.0682 | 0.3312 | 0.6313 | - |
| M042268 | MC | 2.6655 | 0.1501 | 1.2050 | - |
| M062208A | MC | 1.8733 | 0.0009 | -1.6158 | - |
| M062208B | MC | 2.3838 | 0.0002 | -0.8291 | - |
| M062208C | MC | 2.5720 | 0.0004 | -1.0514 | - |
| M062208D | MC | 2.5868 | 0.1870 | -0.5405 | - |
| M062153 | MC | 1.8597 | 0.3168 | 0.6508 | - |
| M062074 | MC | 0.6254 | 0.1760 | 1.4979 | - |
| M062202 | MC | 5.1916 | 0.4537 | 0.7216 | - |
| M062246 | MC | 2.8680 | 0.1891 | 1.3712 | - |
| M062325 | MC | 2.7555 | 0.3850 | 1.3770 | - |
| M062106 | MC | 1.3122 | 0.3367 | 1.6973 | - |
| M062124 | MC | 3.1104 | 0.2196 | 0.9834 | - |
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الملحق (ب)

معالم فقرات الرياضيات في الكراسة الاختبارية الأولى مقدرة من استجابات العينة الثانية (2000) طالب.

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| **الفقرة** | **نوع** | **معلمة** | **معلمة** | **صعوبة** | **صعوبة** |
| **الفقرة** | **التمييز** | **التخمين** | **الخطوة الأولى** | **الخطوة الثانية** |
| M042302A | CR | 1.3727 | 0.0000 | 0.2460 | 0.0371 |
| M042302B | CR | 1.4169 | 0.0000 | 0.9046 | -0.4223 |
| M042302C | CR | 0.7550 | 0.0000 | 2.7507 | 0.5153 |
| M062286 | CR | 1.0584 | 0.0000 | 2.5278 | 1.2535 |
| M042081 | CR | 0.9066 | 0.0000 | 0.6379 | - |
| M042093 | CR | 1.9095 | 0.0000 | 1.2085 | - |
| M042159 | CR | 0.3098 | 0.0000 | -3.3051 | - |
| M042164 | CR | 1.7374 | 0.0000 | 0.2185 | - |
| M042167 | CR | 1.7257 | 0.0000 | 0.7897 | - |
| M062208 | CR | 0.9606 | 0.0000 | -0.5507 | - |
| M062111A | CR | 1.9144 | 0.0000 | -0.0004 | - |
| M062111B | CR | 2.1894 | 0.0000 | 0.6457 | - |
| M062237 | CR | 1.9565 | 0.0000 | 1.2482 | - |
| M062314 | CR | 1.0869 | 0.0000 | 1.6628 | - |
| M062183 | CR | 1.0213 | 0.0000 | 0.2333 | - |
| M042182 | MC | 3.3605 | 0.5040 | 0.4774 | - |
| M042049 | MC | 3.3126 | 0.5383 | 0.6245 | - |
| M042052 | MC | 5.1281 | 0.4420 | 0.4156 | - |
| M042076 | MC | 1.6792 | 0.3359 | 0.8411 | - |
| M042100 | MC | 2.8265 | 0.4300 | 0.3017 | - |
| M042202 | MC | 3.1212 | 0.3764 | 0.5033 | - |
| M042240 | MC | 2.4629 | 0.2796 | 0.2615 | - |
| M042271 | MC | 2.3586 | 0.3906 | 0.6279 | - |
| M042268 | MC | 2.4346 | 0.1684 | 1.2553 | - |
| M062208A | MC | 1.7096 | 0.0008 | -1.6120 | - |
| M062208B | MC | 1.9277 | 0.0001 | -0.9524 | - |
| M062208C | MC | 2.0245 | 0.0002 | -1.1833 | - |
| M062208D | MC | 1.8860 | 0.0135 | -0.9290 | - |
| M062153 | MC | 1.9929 | 0.3692 | 0.8301 | - |
| M062074 | MC | 1.1372 | 0.2576 | 1.5362 | - |
| M062202 | MC | 3.0239 | 0.4153 | 0.5822 | - |
| M062246 | MC | 3.4544 | 0.1832 | 1.2698 | - |
| M062325 | MC | 1.2846 | 0.3498 | 1.5080 | - |
| M062106 | MC | 0.7394 | 0.2945 | 2.2590 | - |
| M062124 | MC | 2.9792 | 0.1851 | 0.8870 | - |

الملحق (ج)

معالم فقرات الرياضيات في الكراسة الاختبارية الأولى مقدرة من استجابات العينة الثانية (5000) طالب.

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| **الفقرة** | **نوع** | **معلمة** | **معلمة** | **صعوبة** | **صعوبة** |
| **الفقرة** | **التمييز** | **التخمين** | **الخطوة الأولى** | **الخطوة الثانية** |
| M042302A | CR | 1.4569 | 0.0000 | 0.3463 | 0.0079 |
| M042302B | CR | 1.4588 | 0.0000 | 0.9431 | -0.3226 |
| M042302C | CR | 0.6877 | 0.0000 | 2.7777 | 0.7599 |
| M062286 | CR | 1.0458 | 0.0000 | 2.6273 | 1.3072 |
| M042081 | CR | 0.8440 | 0.0000 | 0.6530 | - |
| M042093 | CR | 1.8998 | 0.0000 | 1.2446 | - |
| M042159 | CR | 0.2518 | 0.0000 | -4.0647 | - |
| M042164 | CR | 1.9062 | 0.0000 | 0.3101 | - |
| M042167 | CR | 2.0268 | 0.0000 | 0.7648 | - |
| M062208 | CR | 1.1691 | 0.0000 | -0.4377 | - |
| M062111A | CR | 1.9274 | 0.0000 | 0.0384 | - |
| M062111B | CR | 2.3574 | 0.0000 | 0.6614 | - |
| M062237 | CR | 2.0238 | 0.0000 | 1.2602 | - |
| M062314 | CR | 1.2036 | 0.0000 | 1.5459 | - |
| M062183 | CR | 1.1480 | 0.0000 | 0.3058 | - |
| M042182 | MC | 2.8989 | 0.4772 | 0.6187 | - |
| M042049 | MC | 2.4982 | 0.4798 | 0.4952 | - |
| M042052 | MC | 5.0312 | 0.3686 | 0.2831 | - |
| M042076 | MC | 1.7717 | 0.3010 | 0.8167 | - |
| M042100 | MC | 2.9646 | 0.4275 | 0.3202 | - |
| M042202 | MC | 2.7096 | 0.3521 | 0.4873 | - |
| M042240 | MC | 2.9309 | 0.2801 | 0.2634 | - |
| M042271 | MC | 2.1792 | 0.3147 | 0.5420 | - |
| M042268 | MC | 2.0199 | 0.1462 | 1.2121 | - |
| M062208A | MC | 1.9693 | 0.0000 | -1.4740 | - |
| M062208B | MC | 1.9899 | 0.0000 | -0.8571 | - |
| M062208C | MC | 2.1732 | 0.0000 | -1.0413 | - |
| M062208D | MC | 1.8746 | 0.0000 | -0.8779 | - |
| M062153 | MC | 1.5302 | 0.2546 | 0.6393 | - |
| M062074 | MC | 0.5267 | 0.0351 | 1.0756 | - |
| M062202 | MC | 2.8662 | 0.3572 | 0.5293 | - |
| M062246 | MC | 2.9807 | 0.1583 | 1.3191 | - |
| M062325 | MC | 1.1025 | 0.3055 | 1.3666 | - |
| M062106 | MC | 0.4843 | 0.0825 | 1.1145 | - |
| M062124 | MC | 2.5728 | 0.1493 | 0.8820 | - |

**ملحق (د)**

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| **أكبر قيمة** | **أقل قيمة** | **الانحراف المعياري** | **الوسط الحسابي** | **طريقة تقدير القدرة** | **حجم العينة** |  |
| 2.3821 | -1.9582 | 0.8618 | 0.0599 | WLE | 1000 |  |
| 3.1778 | -2.5719 | 0.9436 | 0.0476 | MLE |  |
| 3.6607 | -4.2363 | 1.0211 | 0.0251 | MAP |  |  |
| 2.4718 | -1.9808 | 0.8569 | 0.0598 | WLE | 2000 | تقديرات |
| 3.4372 | -2.6561 | 0.9420 | 0.0483 | MLE | القدرة |
| 4.0087 | -3.8259 | 1.0023 | 0.0307 | MAP |  |  |
| 2.1588 | -1.8830 | 0.8471 | 0.0707 | WLE | 5000 |  |
| 2.4990 | -2.4799 | 0.9139 | 0.0587 | MLE |  |
| 2.7701 | -4.1176 | 0.9856 | 0.0384 | MAP |  |  |
| 0.5429 | 0.1966 | 0.0649 | 0.2985 | WLE | 1000 |  |
| 0.9355 | 0.2192 | 0.0974 | 0.3136 | MLE |  |  |
| 3.0107 | 0.2192 | 0.2060 | 0.3315 | MAP |  |  |
| 0.5460 | 0.1973 | 0.0638 | 0.3097 | WLE | 2000 | الأخطاء |
| 0.9484 | 0.2228 | 0.0953 | 0.3242 | MLE |  | المعيارية |
| 2.1662 | 0.2228 | 0.1434 | 0.3354 | MAP |  |  |
| 0.5605 | 0.1770 | 0.0653 | 0.2944 | WLE | 5000 |  |
| 0.9382 | 0.2003 | 0.0924 | 0.3028 | MLE |  |  |
| 0.5429 | 0.1966 | 0.0649 | 0.3201 | MAP |  |  |

**الإحصاءات الوصفية لتقديرات القدرة والأخطاء المعيارية لها باختلاف طريقة التقدير وحجم العينة .**