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| **S3 National 5 Homework Exercise 7** | | | | | | | | | | | C:\Users\Ian\Pictures\CHS.jpg | | | |
|  | | | | | | | | | | |
| **Equations & Inequations** | | | | | | | | | | |
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| Issued by: | | |  | | | | | Return by: |  | | | | | |
|  | | | | | | | | | | | | | | |
| **1.** | Solve: | | | | | | | | | | | | | |
|  |  | | | | | | | | | | | | | |
|  | a) | 9x – 1 = 7x + 15 | | | b) | | 2(x + 3) = 11 | | | | | c) | | 2(1 + 5x) = 3x – 5 |
|  |  |  | | |  | |  | | | | |  | |  |
|  | d) | (x + 1)2 = x2 + 9 | | | e) | | x + 5 = -1 | | | | | f) | | x - 4 = 3 |
|  |  |  | | |  | |  | | | | |  | |  |
|  | g) | (x + 3) = 4 | | | h) | | - 2 = 1 | | | | |  | |  |
|  |  |  | |  | |  | | | |  | | |  | |
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| **2.** | Solve: | | | | | | | | | | | | | |
|  |  |  | |  | |  | | | |  | | |  | |
|  | a) | 5x + 8 ≤ 3x + 18 | | b) | | 2(2x + 4) > 36 – 6x | | | | c) | | | 15 – 7x ≥ 12 - x | |
|  |  |  | |  | |  | | | |  | | |  | |
|  |  |  | |  | |  | | | |  | | |  | |
| **3.** | In each question below: | | | (i) | | Make an equation or inequation from the information given | | | | | | | | |
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|  |  |  | | (ii) | | Solve to find the answer | | | | | | | | |
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|  | a) |  | | | | | | | | | | | | |
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| **Q.** | **Award 1 Mark for each ●** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| **1.** | a) | ● 2x = 16  ● x = 8 | | | | | | b) | | ● 2x = 5  ● x = 5/2 | | | | | | | | | c) | ● 7x = -7  ● x = -1 | | | | | | | | d) | ● x2 + 2x + 1  ● 2x = 8  ● x = 4 | | | |
|  | e) | ● x = -6  ● x = -18 | | | | f) | ● x = 7  ● x = 28 | | | | | | | g) | | | ● 2(x + 3) = 20  ● 2x = 14 OR x + 3 = 10  ● x = 7 | | | | | | | | | | | h) | ● = 3  ● x – 1 = 9  ● x = 10 | | | |
|  |  |  | | | | | |  | |  | | | | | | | | |  |  | | | | | | | |  |  | | | |
| **2.** | a) | ● 2x ≤ 10  ● x ≤ 5 | | | | | | b) | | ● 10x > 28  ● x > 2.8 | | | | | | | | | c) | ● – 6x ≥ - 3  ● x …… ½  ● x ≤ ½ | | | | | | | |  |  | | | |
|  |  |  | | | | | |  | |  | | | | | | | | |  |  | | | | | | | |  |  | | | |
| **3.** | a) | ● 4√2 | | b) | ● 10√3 | | | | c) | | ● 7√2 | | | | d) | | | ● 5√7 | | | e) | | ● 4√5 | | | | f) | ● √18  ● 3√2 | | | g) | ● |
|  | h) | ● | | i) | ● 8√2 | | | | j) | | ● -9√7 | | | | k) | | | ● 2√2  ● 3√2  ● 5√2 | | | l) | | ● 3√7  ● 2√7  ● √7 | | | | m) | ● √6+√10 | | | n) | ● -√7  ● -5 |
|  |  |  | | | | | | | | | |  |  | | | | | | | | | | | |  |  | | | | | | |
| **4.** | a) | ● | | | | b) | | ●  ● 4√5 | | | | | | c) | | ●  ● | | | | | | d) | | ● | | | | | e) | ● x  ● | | |
|  |  |  | | | | | | | | | |  |  | | | | | | | | | | | |  |  | | | | | | |
| **5.** | a) | ● 2r11 | | | | | | b) | | ● 2p4 | | | | | | | | | c) | ● 24q10 | | | | | | | | d) | ● | | | |
|  |  |  | | | | | |  | |  | | | | | | | | |  |  | | | | | | | |  |  | | | |
|  | e) | ● m10 | | | | | | f) | | ● 64g12 | | | | | | | | | g) | ● 6k4 – 15k-1  ● 6k4 – | | | | | | | | h) | ● 8r11 ÷ r6  ● 8r5 | | | |
|  |  |  | | | | | |  | |  | | | | | | | | |  |  | | | | | | | |  |  | | | |
| **6** | a) | (i) | ● | | | | | (ii) | | ● | | | | | | | | | (iii) | ● | | | | | | | |  |  | | | |
|  |  |  | | | | | |  | |  | | | | | | | | |  |  | | | | | | | |  |  | | | |
|  | b) | (i) | ● | | | | | (ii) | | ● | | | | | | | | | (iii) | ● | | | | | | | |  |  | | | |
|  |  |  | | | | | |  | |  | | | | | | | | |  |  | | | | | | | |  |  | | | |
| **7.** | a) | ● √49  ● 7 | | | | | | b) | | ●  ● 4 | | | | | | | | | c) | ●  ● 52  ● 25 | | | | | | | | d) | ●  ●  ● | | | |
|  |  |  | | | | | |  | |  | | | | | | | | |  |  | | | | | | | |  |  | | | |
|  | **Total = 80 marks** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |