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| ***GR 10 REVISION: FACTORIZATION*** |
|  |  |  |  |  |  |
| Factorise completely: |
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| 1. |  |  | 2. |  |  |
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| 3. |  |  | 4. |  |  |
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| 5. |  |  | 6. |  |  |
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| 7. |  |  | 8. |  |  |
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| 9. |  |  | 10. |  |  |
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| 11. |  |  | 12. |  |  |
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| 13. |  |  | 14. |  |  |
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| 15. |  |  | 16. |  |  |
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***ANSWERS***

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| 1. |  | $$=2x\left(x-2y\right)$$ | 2. |  | $$=\left(\frac{x}{4}-\frac{1}{5}\right)\left(\frac{x}{4}+\frac{1}{5}\right)$$ |
|  |  |  |  |  |  |
| 3. |  | $$=\left(a-b\right)\left(3-c\right)$$ | 4. |  | $$=\left(a-9\right)\left(a-4\right)$$ |
|  |  |  |  |  |  |
| 5. |  | $$=2x\left(x-1\right)-y\left(x-1\right)$$$$=\left(x-1\right)\left(2x-y\right)$$ | 6. |  | $$=\left(1-4p\right)\left(1+4p+16p^{2}\right)$$ |
|  |  |  |  |  |  |
| 7. |  | $$=\left(3x+4\right)\left(5x-9\right)$$ | 8. |  | $$=p^{2}+px-py-xy$$$$=p\left(p+x\right)-y\left(p+x\right)$$$$=\left(p+x\right)\left(p-y\right)$$ |
|  |  |  |  |  |  |
| 9. |  | $$=x^{2}\left(x-2\right)-3x\left(x-2\right)+4\left(x-2\right)$$$$=\left(x-2\right)\left(x^{2}-3x+4\right)$$ | 10. |  | $$=x^{2}\left(x^{2}+2\right)$$ |
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| 11. |  | $$=\left(3k+\frac{1}{2}b\right)\left(9k^{2}-\frac{3}{2}bk+\frac{1}{4}b^{2}\right)$$ |  |  |  |
|  |  |  |  |  |  |
| 12. |  | $$=\frac{1}{2}\left(1-x^{16}\right)$$$$=\frac{1}{2}\left(1+x^{8}\right)\left(1-x^{8}\right)$$$$=\frac{1}{2}\left(1+x^{8}\right)\left(1+x^{4}\right)\left(1-x^{4}\right)$$$$=\frac{1}{2}\left(1+x^{8}\right)\left(1+x^{4}\right)\left(1+x^{2}\right)\left(1-x^{2}\right)$$$$=\frac{1}{2}\left(1+x^{8}\right)\left(1+x^{4}\right)\left(1+x^{2}\right)\left(1+x\right)\left(1-x\right)$$ |
|  |  |  |  |  |  |
| 13. |  | $$=\left(a^{3}-1\right)\left(a^{3}+1\right)$$$$=\left(a-1\right)\left(a^{2}+a+1\right)\left(a+1\right)\left(a^{2}-a+1\right)$$ |  |  |
|  |  |  |  |  |  |
| 14. |  | $$=\left[6a^{2}-5\left(a-b\right)\right]\left[6a^{2}+5\left(a-b\right)\right]$$$$=\left[6a^{2}-5a+5b\right]\left[6a^{2}+5a-5b\right]$$ |
|  |  |  |  |  |  |
| 15. |  | $$=-10k^{2}-26k+12$$$$=-2\left(5k^{2}-13k+6\right)$$$$=-2\left(5k-3\right)\left(k-2\right)$$ |  |  |  |
|  |  |  |  |  |  |
| 16. |  | $$=x\left(x^{2}-4y^{2}\right)+y\left(x-2y\right)$$$$=x\left(x-2y\right)\left(x+2y\right)+y\left(x-2y\right)$$$$=\left(x-2y\right)[x\left(x+2y\right)+y]$$$$=\left(x-2y\right)\left(x^{2}+2xy+y\right)$$ |
|  |  |  |  |  |  |